



Objective

- Plan and deliver secure, next generation infrastructures for Kraft Foods Inc.'s launch as two independent public companies
- Drive toward business agility through client virtualization and a versatile cloud architecture
- Drive efficiencies and cut costs

Approach

- Sole-source renewal for next-generation hosting infrastructure and end-user computing
- New mirror hosting/EUC agreements after the split, followed by separate networking agreements

IT Matters

- Applications and infrastructure replication
- Green next-generation data center
- · Disaster recovery solution
- Private cloud for rapid provisioning of server instances
- Virtual desktops on demand

Business Matters

- Rapid split of Kraft Foods Group and Mondelëz International
- Lower operational costs, efficiencies and greater resource control
- Ability to change and innovate rapidly, be immediately productive and get to market faster

Kraft Foods Group and Mondelēz keep innovation flowing

Two giant 'startups' carry on the Kraft legacy as they rapidly launch themselves



On October 1, 2012 Kraft Foods Inc. spun off its North American grocery business as Kraft Foods Group, Inc. and became Mondelēz International, Inc. To prepare the global IT infrastructure for the split, Hewlett Packard Enterprise (HPE) and the consumer packaged goods giant began working at warp speed in January 2012.

Times have changed since 1903 when 29-year-old James L. Kraft, suddenly eased out of a business partnership, spotted an opportunity. Stranded in Chicago with \$65 in his pocket, the young entrepreneur noticed that local shopkeepers had to travel to the city's wholesale warehouse district to buy cheese for their stores.

Kraft used his money to buy a horse and wagon, purchase wholesale cheese and began selling cheese to small stores. He quickly prospered, and a future food manufacturing giant was born.

Case studyKraft Foods Group and Mondelēz International

Industry

Consumer packaged goods



Today the Kraft legacy encompasses a wide range of famous foods, snacks and beverages with technology as the "horse" power behind the business. And James Kraft's enterprising spirit of rapid innovation, agility, cost efficiency, speed to market and a knack for capitalizing on opportunities continues in Mondelēz International, Inc. and Kraft Foods Group, Inc.

Those two companies launched on October 1, 2012 when Kraft Foods Inc. spun off its North American grocery business as Kraft Foods Group, Inc. and became Mondelēz International, a global snacks powerhouse.

Overnight Mondelēz became a \$35 billion world snack food leader in chocolate, biscuits, gum, candy, coffee and powdered beverages. Its goal is high growth by targeting fast-growing food markets as well as high-growth developing markets geographically. Mondelēz has approximately 110,000 employees and several billion-dollar brands that include Cadbury and Milka chocolate, Jacobs coffee, LU Nabisco and Oreo biscuits, Tang powdered beverages and Trident gum.

Kraft Foods Group, Inc. was launched as a \$18 billion company with about 23,000 employees in the U.S. and Canada. The company became the fourth largest consumer packaged food and beverage company in North America, with iconic brands that include Kraft, Maxwell House, Oscar Mayer, Planters and JELL-O. In the more established North American groceries market, Kraft Foods Group expects to deliver steady, reliable growth with a strong focus on cash flow to fund a highly competitive dividend and reinvestment in people, innovation and brand-building.

Creating two infrastructures at breakneck speed

The official launch happened overnight, but the work behind the scenes to make it happen smoothly and rapidly was complex and involved. Kraft Foods Inc. and HPE worked closely together around the clock for about nine months to build and implement two independent infrastructures that separated employees and IT functions—and to keep business running as usual around the world.

As Kraft Foods Inc.'s global infrastructure partner, HPE played a strategic role in planning, designing, building and delivering a data center, hosting, security, network, and end user services to enable both Mondelēz International and Kraft Foods Group to launch on schedule.

Kraft Foods Inc. also accelerated efforts to integrate 34,000 employees from a 2010 acquisition of Cadbury, a \$19 billion, 186-year-old British confectioner that is now part of Mondelēz. The Cadbury and legacy Kraft infrastructures and help desks had remained largely separate, but with the split on the horizon, it was essential to consolidate them rapidly.

"Integrating Cadbury and then separating into two companies was a monumental effort that required an unbelievable amount of coordination and expertise," says Dave Diedrich, VP & CTO, Mondelez International. "HPE did an amazing job and worked closely with us to make the launch a success within an aggressive timeframe—and at the same time provided us with an infrastructure that supports our new focus on innovation and growth markets. We could not have accomplished what we did without HPE."

In less than nine months of intense effort, HPE and Kraft Foods Inc.:

- Stood up over 1,000 servers and 300 terabytes of storage
- Installed 5 SAP landscapes, moved 350 applications
- Created two dedicated private clouds
- Built security infrastructures and the foundation for data center disaster recovery services
- Created two new Microsoft® Lync™ collaboration infrastructures, two Active Directory domains, two software distribution infrastructures
- Created 40,000 Mondelēz International email accounts and moved Kraft Foods Group email accounts into a new cloud

... and cut over with no major issues—on time and on budget.

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"We're the world's greatest start-up. Out of the gate, we have \$35 billion in revenue. We are the world's pre-eminent maker of snacks, with leading market shares in every category and every region of the world in which we compete. As our long-term IT infrastructure partner, HPE pulled off the split under an incredibly aggressive timeframe, and is playing a significant role today in making our business strategy a reality."

— Dave Diedrich, VP & CTO, Mondelez International

HPE also implemented new, private cloudbased next generation hosting strategies that afforded better cost efficiency, flexibility and responsiveness—and helped HPE begin providing leaner, faster services delivery that adapted to Kraft Food Inc.'s varying worldwide requirements.

"To be able to stand up an entire company's infrastructure from scratch in just a few months is mind boggling," says Jan Ziskasen, CTO, Kraft Foods Group. "The split was a massive effort that required dedication, creativity and sophistication. The HPE team worked with us around the clock to successfully cut over in time for our public launch as a new company. In an incredibly short timeframe they moved users to a new email system, designed a new disaster recovery solution, delivered a new data center for us in Colorado Springs—and got us up and running as a new company.

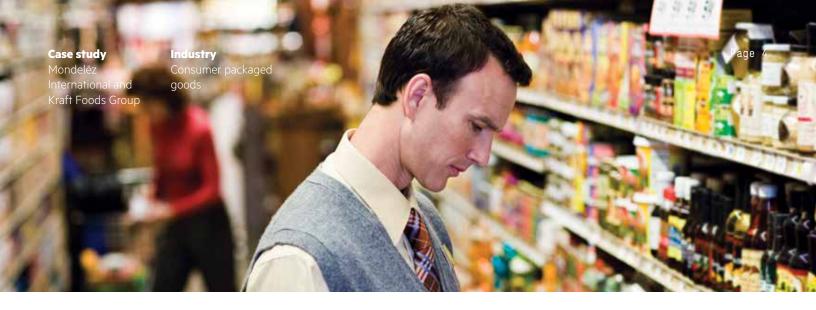
Cloud and virtualization speed the split

A major facilitator in dividing the infrastructures so rapidly was moving the environment to virtualization in the cloud. Before the split, HPE began working with Kraft Foods Inc. to virtualize the Microsoft

Windows® and Linux environments. Then HPE set up two dedicated private clouds for these environments—one each for Mondelēz International and Kraft Foods Group—in HPE data centers.

The clouds cover every type of application and environment—from product development to critical SAP environments. Today HPE manages more than 2,200 virtual instances within the private cloud environment—more than a third of the combined companies' servers. Servers not in the cloud tend to be outside the data center in plants, distribution centers, sales offices and other locations near end users.

The stage is also set to add self-service provisioning to further improve responsiveness to client requests and to bring Kraft Foods Group and Mondelēz International into the next generation of cloud computing. The companies' next generation hosting architecture provides for the delivery of traditional data center, private cloud, and as business needs dictate, shared virtual private cloud and hybrid cloud with public cloud providers. The private clouds in use today are based on the extensive cloud automation and management capabilities of HPE Helion CloudSystem Enterprise.



"The cloud is transparent to us," says Ziskasen. "All we know is that the IT infrastructure HPE provides keeps up with our needs. HPE brings its depth of knowledge and skills so that we can focus on cheese and JELL-O and innovation."

High speed delivery

To achieve the infrastructure split in less than nine months, HPE needed to move at an extremely high speed, with a minimum of procedural mistakes. To do this, the team adopted a creative approach that gave wings to standard process transformation methodology. Rather than assign a project manager the full lifecycle of a project, the team used a "conveyor belt" tag-team approach that assigned individual areas of delivery. The people involved quickly became proficient at their particular task. One team, for example, obtained hardware and put it on the floor in a data center. Another team then performed the server builds. The people executing the various gates became so good at their tasks that they were able to establish and maintain incredible throughput during all aspects of the split effort.

Flexible infrastructure for constant innovation

The flexibility of the cloud supports Mondelēz International and Kraft Foods Group's constant innovation to stay competitive and satisfy consumers. Both companies are continually varying their existing offerings and developing new products for new markets.

Less than three months after the split, for instance, Kraft Foods Group announced that

it had "revved up its innovation pipeline" to introduce more than 40 foods and beverages to meet consumers' quest for "adventure in flavors" and "the ultimate taste experience" as well as for simplified ingredient lines.

The companies' constant innovation keeps some 3,000 food scientists, chemists and engineers hopping. Their R&D needs are immediate and volatile. They may suddenly need to test an idea, and then abandon it if it doesn't work, or proceed with additional development.

In addition, both companies' production demands fluctuate throughout the year before the Super Bowl, Easter and other holidays and events.

"Mondelēz is fast paced and margin conscious," says Diedrich. "The cloud environment means IT can keep up with the business. We can cost-effectively leverage what we need, when we need it, as we develop new products and move into new markets."

New green data center and SAP environments

Since Mondelēz International retained all of the businesses in Latin America, Asia-Pacific and EMEA, the split primarily involved work in North America spinning off Kraft Foods Group. HPE worked closely with Kraft's applications and infrastructure management teams to plan, design, build and deliver a new green next generation environment for Kraft Foods Group that will also enable disaster recovery. HPE deployed HPE FlexFabric network architecture in the HPE Tulsa and

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"The new Kraft has the spirit of a startup and the soul of a powerhouse. We see this as an opportunity to build something extraordinary, to create a renaissance in the North American food & beverage industry. HPE—an innovative, creative IT powerhouse in its own right—helped launch us as an independent company and is providing the infrastructure and expertise to move us forward on our journey."

— Jan Ziskasen, CTO, Kraft Foods Group

Colorado Springs data centers. Using the FlexFabric collapsed core design, server edge aggregation and Intelligent Resilient Framework (IRF) virtualization technology, HPE simplified the data center network architecture, provided greater agility and lowered costs for Kraft Food Group. Moving forward, both Kraft Foods Group and Mondelēz are planning to use HPE Networking FlexCampus and FlexBranch LAN and Wireless LAN hardware at their offices and plants in support of their next generation network (NGN) initiatives.

As part of the split, Kraft Foods Inc. and HPE moved the SAP application layer from a proprietary Solaris platform to Linux across several new and existing SAP landscapes and then created two separate SAP environments. The core SAP system is optimized on a purpose-built infrastructure, and HPE provides specialized SAP Linux capacity out of the private cloud resource pool of virtualized servers, storage and networking. The new, open-standards environments give Kraft Foods Group and Mondelez cost savings and a greater scalability. HPE Information Management & Analytics also implemented five business warehouse accelerator (BWA) appliances before the split for SAP production, regression and quality assurance landscapes that will enable the companies to make better use of advances in big data by

enhancing data warehousing and performing lightning fast database analysis.

Data center design

The Mondelez infrastructure remained mostly in the HPE Tulsa data center, with some spillover into HPE Plano. Mondelēz also uses a pair of HPE data centers in Rüsselsheim and Frankfurt, Germany as well as dual data centers in Toronto, Canada. Tulsa remains the primary data center for both companies. Tulsa hosts Kraft Foods Group's production environment, but the new disaster recovery design—which uses virtualization as much as possible—establishes a regression environment in the Colorado Springs next generation data center (NGDC) with the same capacity as the Tulsa production environment, so that Kraft Foods Group can use the infrastructure for dual purposes. The solution will replicate and continuously monitor production data and is designed to support full production load during disaster recovery or DR exercises, with zero downtime.

Keeping the pace

Integrating Cadbury end users into Kraft Foods Inc. in preparation for the split, then dividing and setting up the new workplace infrastructure for Kraft Foods Group and

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Mondelēz was an intricate dance of identifying, scheduling, separating and migrating end user identities, Active Directories, electronic software distribution and email accounts for approximately 125,000 employees and contractors.

Within four months, the team integrated 34,000 Cadbury users and 14,000 PCs into what was to become the Mondelez Active Directory, also combining service desks and field services. Then the workplace team split the Kraft Foods Inc. Service Desk, creating two different Active Directory domains and software distribution infrastructures and making sure that everything was separated to the Active Directories. In about six weeks HPE migrated about 28,000 Kraft Foods Inc. users to the new Kraft Foods Group and migrated about 31,000 users and 14,000 PCs from the Mondelez Active Directory into the Kraft Foods Group directory. Then HPE and Kraft Foods Inc. worked with Microsoft, which hosted the company's email in a cloud, to divide the email systems and move the 28,000 new Kraft Foods Group users to the new hosted email cloud. Ongoing, HPE provides wraparound email services such as process request, support, and SNTP mail routing for both companies.

In preparation for the split, HPE migrated users from Microsoft Office Communicator to Microsoft Lync, an on premise collaboration tool. HPE set up and now hosts two new dedicated infrastructures for Lync. It also supports Lync and Enterprise voice, which allows Lync to be used for phone calls to both other Lync users and regular phone lines.

Leveraging the HPE private cloud architecture and implementation, HPE also implemented Client Virtualization Services (CVS) for Kraft Foods Inc. end users. CVS now provides Kraft Foods Group and Mondelez International end users with the ability to request services that meet their job requirements. Users that require full access to the environment leverage persistent desktop solutions. Users needing only access to specific applications take advantage of the application presentation solution. Both services allow authorized contractors, thirdparty developers or employees to access these services anytime, from anywhere and from any device. As a result, the companies can easily ramp personnel up or down

according to business needs, without the cost and inconvenience of issuing laptops or other devices for temporary projects.

End-to-end security

HPE worked with Kraft Foods Inc. to build the security infrastructure required to provide identity and access management (IDAM) for the new companies. Simplified processes also reduce costs and provide fast user access.

HPE now provides ongoing support in both companies for IDAM-related tools such as Microsoft Forefront™ Identity Manager, Ping Federate, Virtual Directory and Identity Master. Additionally, HPE supports an automated user Identity provisioning system based on IRequest toolset for both companies.

HPE also provides a range of security services for Kraft Foods Group and Mondelēz, including governance, risk and compliance management, operations, intelligence, data center and network security services.

To help secure user data from theft or loss, HPE helped both Kraft Foods Group and Mondelēz implement a managed PC and laptop encryption solution. HPE also helped Kraft Foods Group implement a data loss prevention solution to discover and secure all personally identifiable information (PII) contained within documents and databases hosted on its Share File environment by identifying and securing this information.

In addition, HPE worked with Kraft Foods Group and Mondelez to implement global web security threat and vulnerability programs that aligned to the pre-split Kraft Foods Inc. cyber security initiative. Driven by federal regulations to secure information assets, Kraft Foods Group and Mondelez needed to be able to perform compliance assessments to validate the security controls on their externally facing websites approximately 360 Mondelez websites and 200 Kraft Foods Group websites. The HPE Application Security Scanning Service leverages HPE's Fortify application security software and provides Kraft Foods Group and Mondelez with a multi-tiered capability for basic, standard and advanced security controls assessments based on the risk profile of the sites. The assessment service scope

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— Dave Diedrich, VP & CTO, Mondēlez International

includes mobile sites, regular websites, and code validations along with continuous security monitoring of high-risk websites.

Life after the split

Over the years HPE has worked with Kraft Foods Inc. to optimize IT and the way IT Services are delivered. Now that the split is complete, HPE continues to manage and evolve the flexible, secure next generation hosting infrastructures, including networking and end-user computing, for both Mondelez International and Kraft Foods Group.

Diedrich concludes: "Dynamic businesses in a highly competitive industry need an IT infrastructure that is just as flexible, cost-effective and innovative. As our global infrastructure partner, HPE made it possible to launch our new identity, and is now providing an infrastructure that supports our business going forward."

HPE is working with both companies to drive efficiency and cut costs to get down to the "lean, mean" size best for running their businesses.

Kraft Enterprise Command Center drives excellence

One successful approach from the launch that helps IT run smoothly at Kraft Foods Group is an Enterprise Command Center. Tower leaders join the CTO for daily calls to discuss what's happening, what's about to happen and what will happen down the road. The center, designed to assess the health of the data environment and discuss key performance indicators, is an important part of the company's focus on operational excellence and zero-defect delivery expectation.

"The Enterprise Command Center provides a heightened focus on various aspects of IT and gives us a forum to quickly address issues without waiting until something bubbles up and businesses are suffering," says Jan Ziskasen, CTO, Kraft Foods Group. "We can see where the waters are rising and do something about it right away."

The center evolved during the split. Presplit Kraft Foods Inc. and HPE formed an Infrastructure Command center in July to deal with critical issues. Closer to the split deadline, the Infrastructure Command Center joined a larger System Command Center that included various business application streams. This combined center lasted for a few weeks after the split until Kraft Foods Group no longer needed hyper care. "Then in mid-December, at the prompting of Kraft Foods Group's infrastructure organization, the company revived the concept as the Kraft Enterprise Command Center. "They first implemented command center practices, policies and approaches for infrastructure layers, then rolled application teams back into the center."

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Customer at a glance

Hardware

Networking

- Data center:
- HPN 5800
- -5500 series access switches
- 12508 core/distribution switches
- -6604 routers
- -2500N TippingPoint IDS
- Office/Plant:
- HPN 5500
- -5800 series access switches
- MSM430, MSM460, MSM466 and MSM466-R access points
- MSM415 RF Security Sensors
- MSM720 & MSM760
- WLAN controllers

Software

- Veritas Cluster Server
- Oracle DataGuard
- VMware Site Recovery Manager (for VMS)
- XP9500 Continuous Access Asynchronous Journal

Services

Pre-split Kraft Foods Inc., Kraft Foods Group and Mondelēz

- Hosting Services
- End-User Computing Services
- Networking Services
- HPE Enterprise Security Services
- Program Management
- $\bullet \ \mathsf{Application} \ \mathsf{Modernization}$
- Disaster Recovery Services
- Client and Server Virtualization
- Information Management
- Private Cloud Transformation
- HPE CloudSystem Enterprise

Storage

- HPE 3PAR StoreServ
- HPE StoreOnce Backup
- HPE XP9500 Storage
- HPE Data Protector Backup













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4AA4-8336ENW, November 2015, Rev. 1