



Cognizant

# Unlocking the 'Smart Home'

By following a blueprint, communication service providers can move beyond commodity services and deliver truly differentiated and profitable smart-life offerings.



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## Executive Summary

Communication service providers (CSPs) face an unprecedented array of strategic, long-term challenges that make it imperative for them to find new markets for subscriber and revenue growth. Market saturation for “triple-play” phone/Web/TV services, as well as for voice/data/text wireless plans, threatens slower growth and reduced margins. Increased use of wireless devices is slashing use of landlines, while new streaming media services offered by Amazon, Netflix and Hulu capture more of customers’ entertainment dollar. Both factors lead to increased “cord-cutting,” in which consumers receive entertainment directly over the Web without subscribing to a CSP’s entertainment offerings. Lingering above all these concerns is global economic uncertainty, increasing the risk for CSPs that are investing billions of dollars in new offerings.

Smart-home offerings that use existing infrastructure, such as the Web, broadband networks and mobile devices, to provide new security, convenience and entertainment services can enable CSPs to grow their user base, margins and revenue per customer. These services could extend beyond current offerings, such as home security and energy management, into broader offerings, including integration with connected cars, remote medical monitoring, tracking customers’ exercise routines and other cloud-based services (see Figure 1, next page). Smaller operators can also look beyond the existing first tier of services to emerging or niche markets that the largest players have not yet entered.

Such offerings can be cost-effective to deploy and manage because they largely rely on an existing networking and organizational infrastructure to deliver new services within and outside of customers’ homes. However, CSPs face significant challenges, including customer education, the ability to provide high levels of support and addressing security concerns.

## Sample CSP Smart Home Application

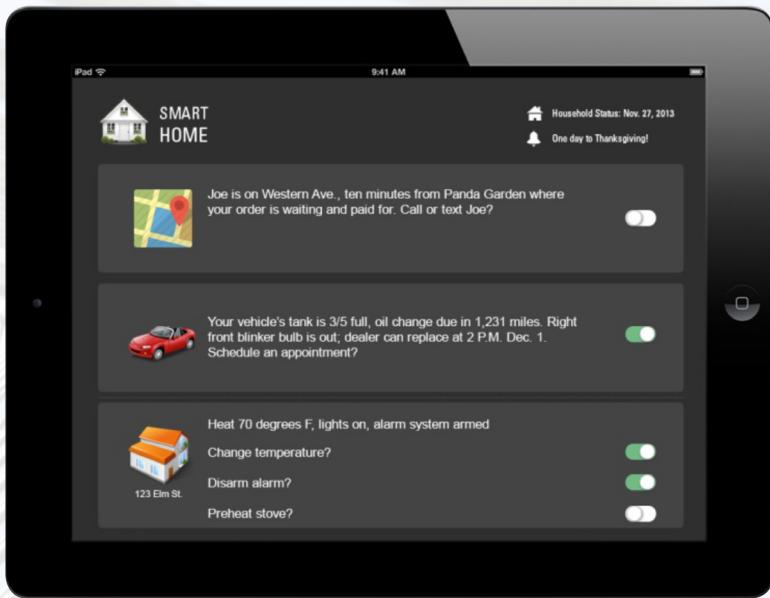


Figure 1

For both large and small CSPs, the market is so new and changing so quickly that gaining first-mover advantage requires new approaches to everything from leadership strategies to organizational alignment, and to educating and supporting consumers in their use of these new services.

This white paper describes some of the challenges facing CSPs as they forge a pragmatic path to the “smart life” future. We offer suggestions, based on our work with CSPs around the globe, for overcoming each challenge.

## Smart Life Defined

Smart-life services leverage computing power, the cloud and established wired and wireless communication infrastructures to make life easier, safer and more convenient, pleasant and efficient for consumers. While “smart home” is a common term used for services inside the home, “smart life” encompasses services at home and outside the house.

The most common example is home security monitoring and management, in which consumers can remotely change thermostat settings, turn lights on or off or even remotely monitor their homes through a live video stream. AT&T, Verizon and Comcast, among others, already provide home security services. Strategy Analytics predicts that 16% of households served by broadband around the world will have at least one smart-home system by 2017.<sup>1</sup> It also predicts that the global market for smart-home systems and services (including entertainment, smart appliances and digital healthcare) will rise from \$31 billion in 2013 to \$72 billion in 2017.<sup>2</sup>

**CSPs that wish to successfully pioneer this market need to be willing to incrementally roll out new offerings and focus on educating both the market and their own sales force on the value that smart home offers.**

Some CSPs may extend such capabilities outdoors, with smart irrigation systems that water lawns when a cloud-based weather forecast determines that watering is necessary. Leading CSPs are already proposing services in which a “connected car” will communicate to a smart home to turn off the lights. As wearable computing becomes mainstream, future possible services delivered over the CSP’s existing networks range from remote medical monitoring to exercise tracking to pet location.

While there’s no lack of visionary ideas, finding the winners without “betting the company” requires meeting competitive challenges. A Cognizant survey of 900 CSP customers conducted in November and December 2013 highlights both the challenges and opportunities involved with offering smart-home services to customers.

The first challenge is the immature state of the market and the resulting consumer lack of familiarity with the benefits of the smart home. In our survey, a relatively low number of respondents ranked such services as highly desirable. Existing smart-home offerings also show little promise of reducing customer churn. Just under half of respondents across all age groups and income levels said the availability of smart-home services would keep them from leaving their current CSP for another.

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Since consumers are not using existing digital offerings (wireless, Web TV streaming, online gaming, DVRs, etc.) to the levels that pundits had predicted, CSPs should focus on making smart-home services easy to understand and use, and provide high-quality support that can resolve customer issues quickly and efficiently.

The data also shows that consumers aged 18-34 are the most willing to adopt smart-home capabilities to play audio files on multiple devices using a common storage platform, control their utilities or remotely monitor their home security from a mobile device. Based on our survey results, an attractive test market is the upper age range of this group – consumers aged 28 to 34 – because it means that CSPs can capture consumers who are several years out of college and are preparing to purchase their first home.

Respondents aged 35-49 showed less willingness to purchase smart-home services, possibly because they were less comfortable with mobile devices and remote capabilities and lacked trust in having a third party manage their personal data (with 71% calling data privacy extremely important). This, again, shows the need for customer education and training, as well as for proven privacy safeguards.

## Competitive Considerations

CSPs looking to enter the smart-life market face a raft of external competitive challenges, many of which differ vastly from those faced in their traditional markets. Overcoming these hurdles requires the proper organizational alignment, as well as the leadership to put smart-life concepts to effective use.

- **To avoid losing market share, CSPs must move at “startup” speed.** This approach can be difficult for large enterprises with major investments in complex infrastructure and processes to support their current offerings.
- **With hardware becoming commoditized, CSPs must quickly develop and effectively deliver compelling value-add services** that offer differentiation through superior design, customer support or insights into customer needs.
- **CSPs must out-compete companies with established brand recognition in existing smart-life markets,** such as home security (ADT), smart appliances (GE) and medical devices (Johnson & Johnson).
- **Conversely, an opportunity exists to partner with manufacturers and service companies (such as utilities and automakers) to develop smart product platforms,** including electricity smart metering, gas leak detection sensors and connected-car platforms.
- **CSPs can also partner with utilities to find creative ways to provide and utilize data on usage patterns.**

Navigating these sometimes jarring changes on the road to the smart-life market requires the right leadership and organizational alignment.

## Organizational Alignment

Organizational alignment means ensuring the organization's assets are organized, available and accountable for meeting its new strategic needs in the emerging smart-life market. Such alignment is essential because seizing first-mover advantage requires moving beyond traditional big-bang service rollouts to a more flexible, iterative and fast-moving process. This flexibility allows CSPs to test new services and markets with comparatively low-cost, low-risk trials. Identifying, developing, delivering and supporting these services while expediting their rollout will often require substantial changes to how a CSP's assets are deployed.

Many of these changes involve an internal organizational restructuring:

- **CSPs will need to create a new development, testing, sales and support infrastructure to support the flexible bundling of smart-life services or, when appropriate, allow customers to purchase them a la carte.** These changes can range from new reporting structures to new cross-functional business units that include both marketing and engineering to support specific customer segments.
- **Since development of new hardware is not always a core CSP competency, CSPs will need to establish new structures, incentives and reporting capabilities for partnering with innovative product development companies.** In some industries, this approach has extended to the creation of venture capital funds that invest in smaller companies, in return for exclusive rights to sell best-in-class products or services.
- **Aligning parts of the smart-life business around specific customer segments,** rather than around industries or geographies, can help CSPs understand the makeup and needs of that segment and quickly deliver specialized services. For example, a business unit organized around the "empty nester" segment can create a unique mix of entertainment, medical monitoring, videoconferencing (with discounts for family members with grandchildren) and home security services that differentiate it from competitors.
- **Creating closer ties between network planning/engineering/marketing/product planning groups** helps ensure the appropriate bandwidth is in place to support services such as video-enabled home security.
- **In areas such as wearable computing, marketing and sales organizations need to be more closely involved in negotiations with hardware providers,** since wearable technology is much more fashion- and trend-driven than the set-top boxes or wireless routers that CSPs traditionally resell.

Supplier and partner relationships require their own adjustments to the organizational alignment:

- **To minimize costs and reduce time to market, CSPs can work with a specialized business process as a service (BPaaS) supplier to analyze large volumes of customer usage and demographic data.** This data, in turn, can be used to assess the demand for potential new offerings. The analysis can identify, for example, homes in high-crime areas as prospects for home security systems; areas with young families for pet-tracking services; retirement homes for remote medical monitoring; or households that have multiple connected home devices for usage patterns of electricity and water.
- **When hardware design or features are a differentiator,** CSPs must partner with suppliers to be among the first, if not the exclusive, resellers of the most advanced equipment.
- **To gain the data analytics skills required to understand the implications of network traffic and consumer usage, CSPs can partner with outside service providers.** This analysis is required both to ensure the network has the necessary bandwidth for smart-life services and to guide the development of new services. The analysis must also take into account the bandwidth required for support functions, including remote control of home monitoring systems and live video surveillance.
- **Outside providers will also be needed** when CSPs are unable to provide the scale or breadth of training required for smart-life services.

## Making the Smart Life Pivot

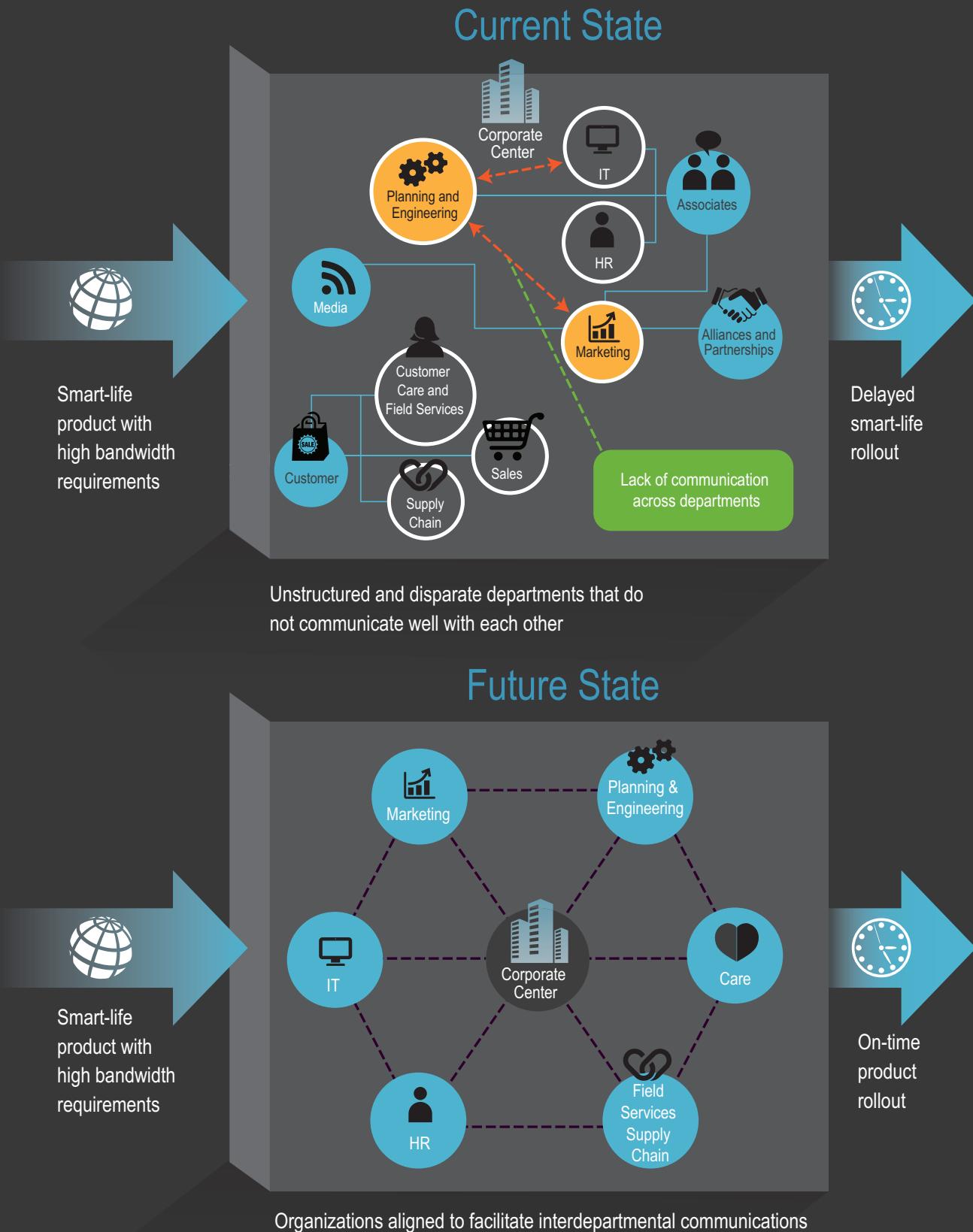


Figure 2

Winning in the smart-life market requires creating, deploying and supporting complex services in new ways. Success also requires quick and cost-effective rollout of experimental offerings, with the ability to adapt them rapidly based on market feedback. Competing in such a fast-changing, unpredictable market requires a change of legacy business processes and platforms that were developed to support more traditional offerings. Such changes include:

- **Using internal or external cloud resources as low-risk, low-cost platforms for test trials.** Use of cloud platforms eliminates or greatly reduces the cost of scaling up IT infrastructure for new services whose success is not assured. Cloud platforms also allow CSPs to scale down their IT infrastructure and their costs, if adoption does not meet expectations.
- **Revamping development processes to take into account how different services (such as home security and phone service) work together.** This can require additional internal reviews, or bringing new stakeholders into the process, to ensure the combined services can be cost-effectively deployed and managed.

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- **Designing new support processes to enable one-touch support for all the services a customer has purchased.** These processes require new support workflows and consolidation of existing support functions.
- **Redesigning customer support functions to ensure services such as quick access to chat, video-sharing of problems with a technician and easily accessible self-help features.** All of these features minimize expensive calls to customer service, while increasing customer satisfaction.

Still other changes involve acquiring new skills:

- **A technician who previously only installed cable and routers can now also be required to service security and healthcare systems.** Technicians can also be expected to cross-sell home security services while servicing a remote health monitoring device.

## Leadership

Learning how to develop and serve a new market such as smart life requires major change. Change is never comfortable for any organization but especially not for CSPs that take a more cautious approach to adopting new technologies or processes that might undermine network uptime.

Tackling the smart-life market requires leaders who can sell the organization on changes to long-established processes and business models. He or she must be able to explain “up” to the leadership team why an investment in an unknown startup may give the CSP a headstart in an emerging smart-life market. These leaders must also be able to explain “down” to middle managers, dispatchers or technicians why it is necessary to source installation or service work to local providers or consolidate contact centers to meet smart-life requirements.

Once leaders have explained their decision, they must have the authority and credibility to ensure that the actions are executed effectively despite internal resistance.

This process requires identifying the critical internal and external stakeholders who must be informed, consulted and won over to the smart-life cause.

Stakeholders within the organization or affiliated with it (such as employees or contractors) must not only be informed but also empowered to take action and be evaluated on their performance. Stakeholders outside of such corporate control may include regulators, such as federal or state consumer protection or healthcare agencies. Delivering remote medical monitoring can require, for example, compliance with federal laws governing patient privacy. Here, leaders within the CSP must communicate their plans, argue for the CSP's perspective on key issues and ensure that the CSP's efforts are aligned with regulatory requirements. Leaders must, in other words, mitigate the risk introduced by regulatory concerns that can delay or block smart-life initiatives (see Figure 3, next page).

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Effective leaders will identify and map the impact of change on each group of stakeholders (internal and external) and adapt not only the content but also the channels and frequency of their communications. This adaptation can result, for example, in using more social media for customers considered millennials and more traditional channels for those considered outside of this group.

Equally important is that such leaders take a cross-channel view of how the CSP interacts with customers across the sales, service and support functions. This approach is the only way that leaders can ensure the consistent, high-quality interactions that smart-life customers will demand. He or she must also have a broad view of all the ramifications of these new types of services.

While such leadership skills are essential for any change, they become even more important as a result of the radically new nature of smart-life offerings, including the need to reach beyond the CSP to deliver these services, and the degree of challenging internal change that these offerings demand.

## Looking Ahead

As new services take form, CSPs have marginalized once-giant home telephone service providers and erased entire industries such as video rental. Now, new technologies such as video streaming and smartphones are threatening the CSP's existence.

By leveraging their existing networks, the communication and administration infrastructure allows CSPs to explore the smart-life market at reasonable cost and risk. However, many challenges exist, ranging from fast-moving technology to entrenched competitors to the need to carefully aim services at the proper demographics.

## Talk is Not Cheap

CSP leaders must inform, convince and collaborate with internal and external stakeholders to drive smart life initiatives.

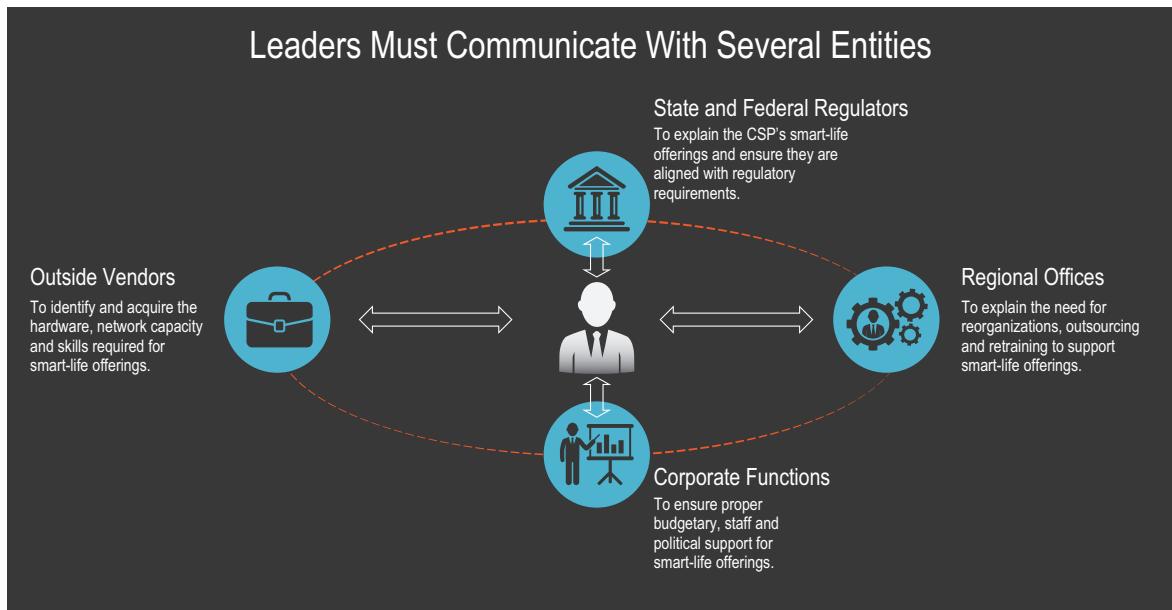


Figure 3

CSPs can better position themselves for the full support that will be demanded by consumers by taking into account the competitive factors associated with the smart-life market, the need to align the organization to meet the functional demands and the importance of leadership support.

As CSPs begin exploring smart life as a product and service offering, business and organizational maturity will be a critical factor in their success. For small CSPs, it is important to partner with businesses that can support the full spectrum of services in order to scale efficiently. A partial offering will result in a disadvantage over larger CSPs that offer triple- and quad-play products.

For companies at both levels, it is important to structure the organization to fully support smart life, from selling consumers on the concept, to comprehensive and convenient customer support on an ongoing basis. The right leadership support is also important for applying a precise focus on the right approach to selling smart life to the correct demographic and to support the product as market requirements evolve.

*For more insights on the Customer Experience Survey, please read our white paper "[Back-to-Basics-for-Communications-Service-Providers](#)".*

## Footnotes

<sup>1</sup> "Remote Monitoring, Control and Security to Propel Global Smart Home Market to \$72 Billion by 2017," Strategy Analytics, Jan. 8, 2013, <http://www.strategyanalytics.com/default.aspx?mod=pressreleaseviewer&a0=5315>.

<sup>2</sup> Ibid.

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## About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world's leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 75 development and delivery centers worldwide and approximately 178,600 employees as of March 31, 2014, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world. Visit us online at [www.cognizant.com](http://www.cognizant.com) or follow us on Twitter: Cognizant.

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