

Top of Mind

Issues facing technology companies

Navigating the four themes of technology disruption



Even in an industry accustomed to waves of change, technology executives are now navigating an unprecedented period of disruption and innovation. The era of cloud computing and smart mobility is bringing about change faster, more continuously and from more directions than ever. The cloud has emerged as a transformational force requiring strategic forethought, customer engagement and agile response – not only for success, but for survival. This transformational force is global and highly complex, encompassing new business models, new entrants and new markets – and always with the looming prospect of next-wave technology disruptors.

The impact is as evident as the sense of urgency it has instilled in C-suites and boardrooms across the technology sector. Strategic M&A have risen higher than at any time since the dotcom boom. Shareholder activism is expanding rapidly. Perhaps most telling, three marquee names in technology each announced plans to split their companies in two – all within just nine days of each other.

Clearly, today's multiple waves of disruption (and their magnitude) are defining a historic industry transformation. To assist technology executives in changing times, we organized the technology industry's changing dimensions of speed, volume and direction into a transformation framework of four primary themes. Each suggests courses of action that technology executives can consider in continuously evolving their own strategies (see Figure 3, page 7).

Transformation framework: four themes

- ▶ **Stack to solution** – technology stacks being displaced by cloud-integrated solutions
- ▶ **Hunting for hidden gems** – pockets of innovation and troves of data lying untapped within the company
- ▶ **In the crosshairs** – challenges proliferating from upstarts and activist shareholders
- ▶ **Multifaceted security** – vulnerabilities and threats multiplying amid technology transitions

“The force and velocity of disruption today are unlike anything seen before. It's a perfect scenario for companies to erupt in value or be destroyed and disappear.”



Jeff Liu
Global Technology Industry Leader
Transaction Advisory Services
EY

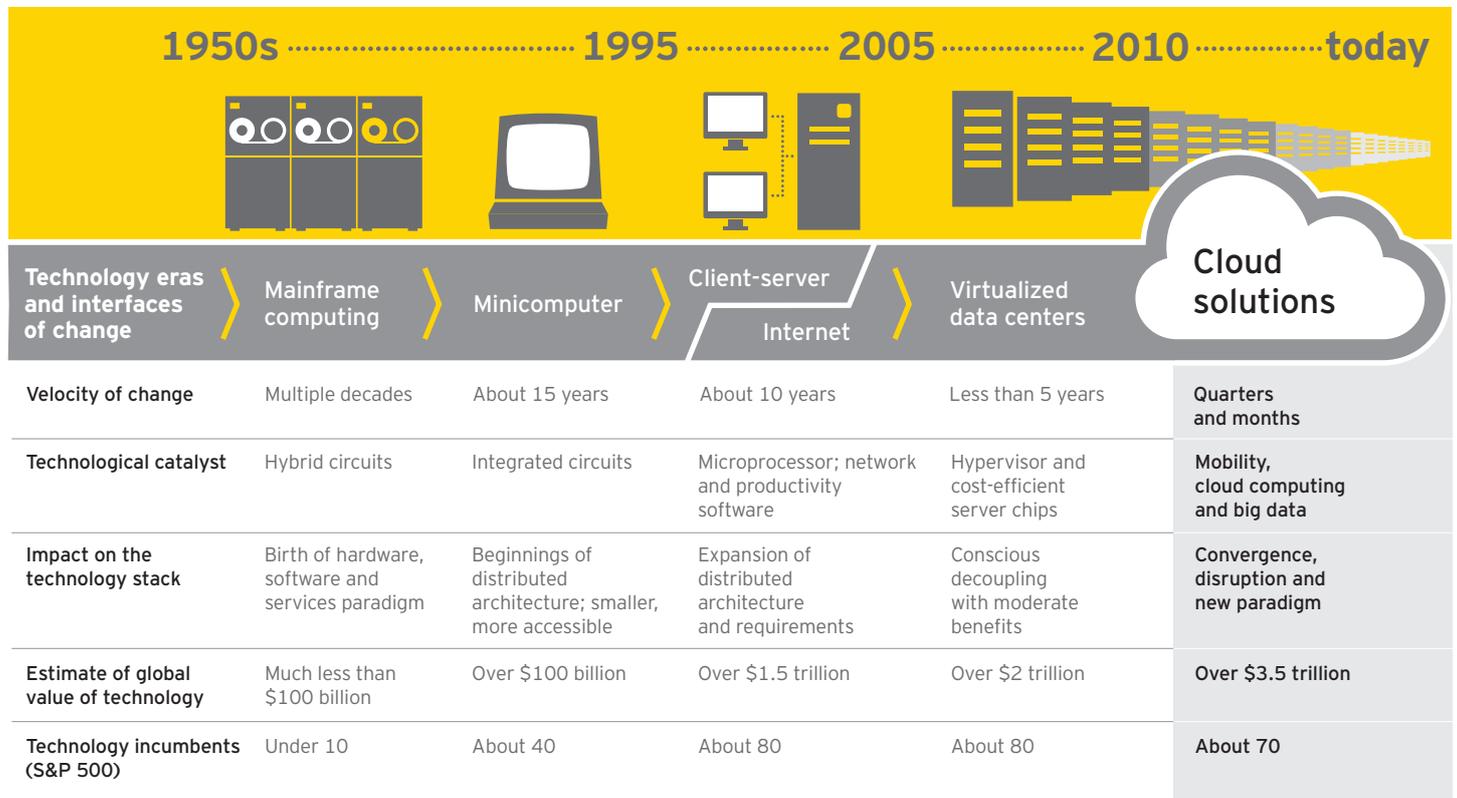
Technology companies no longer have the luxury of decades in which to build up enterprise value before they must begin defending against upstarts.

Technology’s history of accelerating value creation – and destruction

The history of information technology is a series of inflection points at which both accessibility to and affordability of technology building blocks increase, catalyzed by a disruptive technology innovation (see Figure 1). Notably, the velocity of change also increases rapidly at each inflection point because technology innovation feeds on itself. Each increase in accessibility and affordability puts technology building blocks in the hands of larger numbers of innovators and entrepreneurs, ultimately leading to more – and faster – innovation.

That’s why the waves of disruptive innovations keep getting larger and coming faster. And the “faster” part means technology companies no longer have the luxury of decades in which to build up enterprise value before they must begin defending against upstarts. As the eras progress from left to right in Figure 1, the technology industry can be seen creating – and destroying – enterprise value more and more rapidly. And we expect that acceleration to continue.

Figure 1: Period of historical change for the technology stack



Source: EY analysis; all currency references are in US dollars.

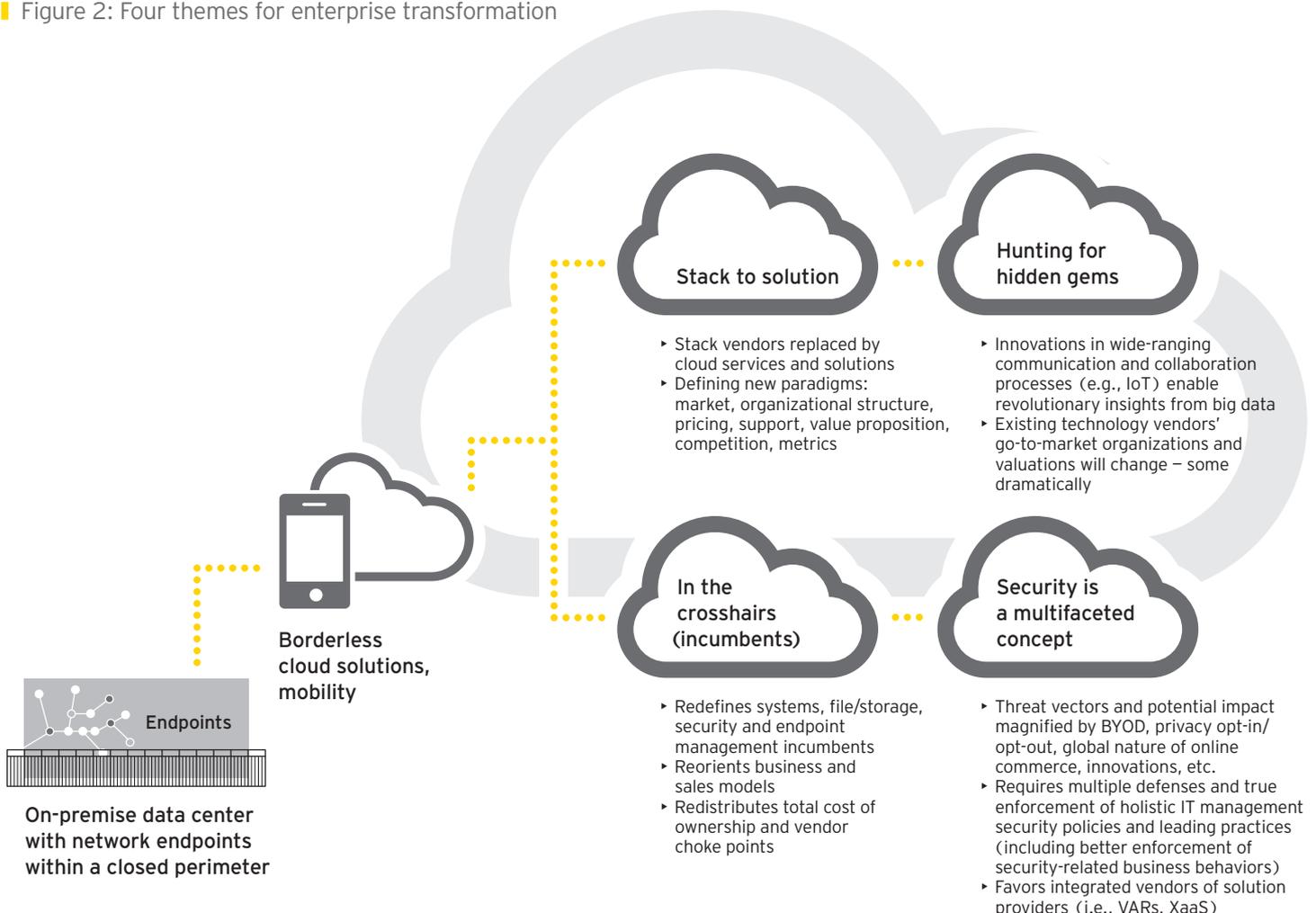
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Why the era of cloud and mobility is different

A critical difference marks the cloud-solutions era. Before the cloud, innovation usually occurred in the technology "stack" itself. Pre-cloud innovations made information technology more powerful, less expensive and easier to use. But user organizations still had to have the technical expertise to deploy, build on and operate the technology and the capital to fund all that. Even though virtualization began compressing the technology stack, it still was the enterprise's responsibility. With cloud computing, however, business organizations now can choose to hide the technology stack completely from their view, transferring the responsibility for it – along with the necessary staff expertise and capital – to a cloud service provider (CSP).

"Cloud-based solutions are a huge disruption," says Jeff Liu, EY Global Technology Industry Leader, Transaction Advisory Services. "It's a true revolution that replaces the computing stack with the end result of that stack, be it compute power, solution power in an application or the ability to get an answer, get an insight or just get something done."

Figure 2: Four themes for enterprise transformation



Source: EY analysis

Stack to solution

The big sea change from cloud and mobile disruption is the theme we call “stack to solution,” whose effects ripple through the other three categories of transformation (see Figure 2, page 4). Stack to solution describes the morphing that technology companies must do: from a paradigm of selling the technology stack (whether as a pure play in one layer of the stack or a large integrated vendor selling many or all layers) to becoming strategically focused on selling the total solution. Ironically, technology companies have often tried to differentiate themselves in the market by saying, “We don’t sell technology; we sell solutions.” Now, they no longer have a choice – they must market and deliver true solutions. Not only that, but those solutions may be unrelated to the underlying technology products and services that deliver them.

Strategically, this forces companies to renew their value propositions. For example, it may not be sufficient for enterprise software vendors to migrate to SaaS. Instead, their customers may expect the business insights they need for decision-making. “The cloud disruption is leading business customers to a more solution-oriented philosophy, where they may no longer care about whether they’re buying software, storage or security, but are mostly concerned with what the right answer is,” explains Liu.

Operationally, stack to solution demands the rapid implementation of new approaches to sales, marketing, product and service development, talent acquisition, R&D – in short, everything about the way technology companies do business. And finally, stack to solution enables non-traditional competition, i.e., companies that have never sold along the technology stack – including certain of the leading CSPs.

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Hunting for hidden gems

Nobody’s perfect, and neither are markets. So “hidden gems” can result from the transformation we have described. One kind emerges when a technology company is in the crosshairs and its market value consequently declines, yet the market has ignored a piece of the company that is actually benefiting from the transformation. That piece is the hidden gem.

Another kind of hidden gem is a direct implication of cloud solutions and the ability to store, manage and analyze much larger data sets. “Some companies have access to data they used to ignore, but now, thanks to cloud services and big data analytics, they can extract and monetize that data in revenue-producing or expense-reducing types of solutions,” explains Liu.

In either case, digging deep and analyzing these gems in the context of our four transformation framework themes can help a company extract new growth opportunities.

Sometimes the market ignores part of an “in-the-crosshairs” company that is actually benefiting from disruptive transformation.



In the crosshairs

There is a cumulative effect to the cloud and mobility transformations as they combine with the three other disruptive technology trends (social networks, big data analytics and accelerated technology adaptation) that are aligned with the stack-to-solution theme. Namely, they have put many established technology companies, which can be challenged to transform their strategies and operations, squarely in the crosshairs of both non-traditional competitors and activist shareholders.

“It’s not that these companies aren’t as innovative or don’t have the latest technologies; it’s that everything about how they go to market has to change, from how they manage sales forces to how they do R&D to how they deliver solutions to clients,” says Liu. Because these companies have grown and matured for decades under the technology stack paradigm, in aggregate there is a tremendous amount of enterprise value at stake.

A company in the crosshairs has to calculate multiple challenges coming in fast from new directions – and pivot. Some will be able to change course and still come through the transformation intact while others are likely to experience transformational transactions – whether as buyer, seller or “spinner” of one or more business units. And activist investors looking to maximize shareholder value are helping to accelerate that process.

Slow-to-transform companies have a tremendous amount of enterprise value at stake.

Multifaceted security

Vulnerability to information security challenges always increases during technology transitions. But the very nature of the current disruption raises security concerns to paramount importance. Borderless networks have replaced traditional closed and “private” enterprise networks, routinely storing confidential information, including intellectual property, outside the perimeter of the corporate network, while also transmitting to mobile devices via open airwaves. At the same time, the nature of security threats is evolving, in part because the changes previously described lead to additional opportunities for exploitation.

All these factors tend to multiply the potential harm from hackers, disgruntled employees and the often culturally ingrained lax security practices of many organizations (such as poor password choice and indiscriminant document sharing). In our transformation framework, multifaceted security is a theme calculated in terms of these omni-directional, unpredictable threats. “The new era gives bad actors more powerful opportunities and more potent tools with which to exploit those opportunities. So enterprises must defend themselves with appropriate information security products and policies around user access and privileges, plus better enforcement of those policies,” says Liu.

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Technology executives can use the transformation framework as the critical context for a fresh look at their organizations' business strategies and operational transformations.

A framework for change

Naturally, it is in a technology company's interest to lead the changes required to remain competitive in the new era of cloud solutions, before finding itself in the crosshairs. Technology executives can use our transformation framework of four themes – stack to solution, hunting for hidden gems, in the crosshairs and multifaceted security – as the critical context for a fresh look at their organizations' business strategies and operational transformations. This framework leverages knowledge EY has derived from our experiences with multiple clients to assist technology executives in:

- ▶ Applying broad-based diagnostics to evaluate your current strategy in the context of disruptive change
- ▶ Evaluating the potential of different strategic actions and responses to create enterprise value
- ▶ Accelerating your organization's evolution from stack to solutions

We believe this approach represents a key opportunity to preserve and enhance value, given the historic challenges presented by disruptive transformation. ■

Figure 3: Enterprise transformation framework

Theme	Calculation	Course of action	Steps
Stack to solution	What is your potential (competency and capability) for providing complete solutions?	Renew	Should you be revamping your value proposition from selling part or all of a technology stack to providing a complete (cloud-integrated) solution?
Hunting for hidden gems	How valuable are the volumes of data and pockets of innovation buried deep in your company?	Extract	Can you capture additional value from those company assets that are benefiting from disruptive transformation?
In the crosshairs	How fast and how intensely are challenges coming from different directions (new competition, shareholder activism)?	Pivot	Are you prepared to make mid-course corrections?
Multifaceted security	What is your risk profile – the combination of omni-directional change and unpredictability?	Defend	Is security an integral part of your technology transition plan?

Source: EY analysis

Our investigative toolkit

This is the first in a series of top-of-mind executive briefs. Each of the next four parts will provide a deep-dive analysis of one of the disruptive transformation themes: stack to solution, hunting for hidden gems, in the crosshairs and multifaceted security.

To discuss the transformation framework and the investigative tools EY has developed to show how these four themes might apply to your own organization, contact Jeff Liu at jeffrey.liu@ey.com or +1 415 894 8817.

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