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EMC Corporation: Managing IT M&A Integrations to Enable Profitable Growth by Acquisitions

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Title: **EMC Corporation: Managing IT M&A Integrations to Enable Profitable Growth by Acquisitions**

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Abstract: EMC Corporation is one of the fastest profitably growing public companies in the United States. It pursues both organic and acquisitive growth. Between 2005 and 2010, it acquired over 50 companies. EMC used to be a vendor entirely of enterprise storage products. Complementary products and technologies of the acquired companies enabled EMC to transform itself into a vendor offering complete systems of hardware and software solutions for addressing information infrastructure needs of customers. EMC's acquisition strategy has been to retain the specialization and talent of acquired companies, and accelerate their revenue growth. Consistent with this strategy, EMC has followed a case-by-case approach in integrating IT infra-structures and applications of acquired companies. Depending on the strategic intent of an acquisition, EMC has left the IT of the acquired company alone; integrated it fully with that of EMC; or followed a hybrid IT integration approach. This case-by-case IT M&A integration approach has been pivotal in EMC's profitable growth through acquisitions. As of early 2011, EMC was facing an unprecedented profitable growth opportunity. However, as the company's size and scope of products and operations grew, different levels of IT integration across various acquired businesses and product lines started to create some challenges. Business and IT leaders were contemplating how to address these challenges and how to architect the company to seize the profitable growth opportunities ahead. This case study examines how EMC has organized for and governed M&A integrations with a particular focus on IT M&A integrations.

Keywords: mergers, acquisitions, IT integration, profitable growth

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EMC Corporation: Managing IT M&A Integrations to Enable Profitable Growth by Acquisitions

EMC Corporation is one of the fastest profitably growing public companies in the United States. Between 2004 and 2010, it nearly tripled its sales revenues from about $6Billion to $17Billion. During the same period, EMC achieved a compound annual revenue growth rate of 13% and average non-GAAP earnings per share rate of 19% (see exhibit 1).

EMC pursues both organic and acquisitive growth. To promote organic growth, it invests about 11% of its annual revenues in R&D. Between 2005 and 2010, EMC's total R&D investments reached about $9Billion. In the same period, EMC made similar levels of investments into acquisitive growth. It invested about $10Billion to acquire the innovative products and talent of over 50 companies (see exhibit 2 for a visual summary of EMC's acquisitions).

EMC's acquisitions are strategic. They aim to provide EMC with access to complementary products, technologies, customer markets, and know-how. With the complementary products of acquired companies, EMC has transformed itself from being a vendor of enterprise storage solutions to a vendor offering complementary hardware and software solutions addressing broad information infrastructure needs of customers. The acquisitions expanded the breadth of EMC's product offerings and increased its total addressable customer markets. EMC has become a single-stop shop for most customers' information infrastructure needs.

EMC's M&A strategy, as articulated by CEO Joseph Tucci, has emphasized retaining the specialization and talent of acquired companies, and accelerating their revenue growth by leveraging EMC's reputation, customer base, and complementary products and resources. This, in turn, has shaped EMC's IT M&A integration strategy. In integrating the IT infrastructures and applications of acquired companies, EMC has followed a case-by-case IT integration approach. Depending on the strategic intent of an acquisition, EMC left the IT of the acquired company alone; integrated it fully with that of EMC; or followed a hybrid IT integration approach. This IT M&A integration approach has been pivotal in EMC's profitable growth through acquisitions.

As of early 2011, analyst expectations about the continued profitable growth of EMC were high. But going forward, the opportunities and challenges faced were quite different than those of

This case study was prepared by Hüseyin Tanriverdi, of the University of Texas at Austin and a Visiting Scholar at the MIT Sloan Center for Information Systems Research, and Kui Du of the University of Texas at Austin. This case was written for the purposes of class discussion, rather than to illustrate either effective or ineffective handling of a managerial situation. The authors would like to acknowledge and thank the executives at EMC Corporation for their participation in the case study.

the previous decade. EMC was no longer a mid-size company. It had become larger in size and expanded the scope of its product markets. EMC was engaging in multi-market competition with a variety of rivals—ranging from NetApp in the mid-market to IBM, HP, and Hitachi in the enterprise market—and potentially disruptive new entrants.

Previous acquisitions of EMC were at different stages and levels of integration, and as a result, some challenges started to emerge. When the size and scope of EMC's operations were relatively moderate, sales forces behind various products of the acquired businesses could coordinate with each other, gain visibility into customer accounts, see the customer as "one," and present EMC's system of complementary product offerings as a single stop shop solution for all the information infrastructure needs of the customer. But as the size and scope of EMC's operations grew, different levels of IT integration across various EMC businesses and product lines began to create challenges in gaining visibility into customer accounts, running reports and performance analytics, determining commissions for specialized sales teams, and covering gaps and inefficiencies in some of the nonintegrated business processes. The growth opportunities ahead and the emerging challenges in current operations raised important questions for leadership of EMC:

1. Would the different degrees of IT integration across acquired companies threaten further profitable growth of the company by limiting the ability of different businesses to sell their complementary product offerings to the same customer?
2. Could EMC continue to retain the specialization, talent, and operating models of acquired companies, and at the same time, begin pursuing a more standardized, more consistent IT M&A integration approach?
3. How could business and IT executives architect EMC for tripling its revenues profitably again in the next decade?

EMC Background

EMC is a leading information technology (IT) company focusing on information infrastructure solutions such as information storage, information intelligence, security, and infrastructure virtualization technologies. In 2010, it employed approximately 48,500 employees worldwide, generated $17Billion in annual revenues, and ranked No.166 on the *FORTUNE* 500 list. It was also recognized as the world's third most admired company by *FORTUNE* magazine.

EMC was incorporated in Massachusetts in 1979 by Richard Egan (the E in EMC) and Roger Marino (the M in EMC). Starting as a company focusing on data storage products, EMC has evolved into a related-diversified information company which addresses customers' various information infrastructure needs. Pursuing double-digit revenue growth has been EMC's most important strategic focus (see exhibit 1 for EMC's growth and profitability patterns).

> *EMC takes the long view and works hard to strengthen its foundation for long-term growth. With that in mind, we are focused on four rapidly emerging, multi-billion-dollar markets that we believe present opportunities for double-digit revenue growth.*[1] *— Joseph M. Tucci, Chairman, President, and CEO*

EMC organizes its business units along the four rapidly emerging markets mentioned in Tucci's comments:

- Information storage: provides enterprise storage solutions for traditional and virtualized datacenters
- Information intelligence: provides software and service solutions to manage the lifecycle of enterprise electronic records
- RSA information security: delivers solutions for organizations to safeguard the integrity, security, and confidentiality of their data assets
- VMware virtual infrastructure: represents EMC's 81% equity stake in VMware, Inc.,

[1] Excerpted from the EMC Corporation 2010 Letter to Shareholders.

which is the market leader in IT infrastructure virtualization software.

Collectively, products and services of the four units enable EMC to go to the customer with complete systems of complementary information infrastructure product offerings. Exhibits 3 and 4 present revenue compositions and gross profit margins of EMC's business units in 2010.

Innovation is critical to EMC's fitness, survival, and growth in the dynamically changing competitive landscape of the IT industry. EMC seeks innovation both internally and externally. Jeffrey Nick, Chief Technology Officer of EMC, describes in-house innovation and acquisition of innovative companies as a "continuous balance."

With 15,500 professionals in sales and marketing, 14,500 in services, and 12,000 in R&D, EMC has a strong global presence throughout North America, Latin America, Europe, the Middle East, South Africa and the Asia Pacific region. Approximately 50% of EMC's revenues come from regions outside of the United States. Potential acquisition targets find EMC's global reach attractive for accelerating the growth of their innovative products.

Strategic Intent of EMC's Acquisitions

The main strategic intent behind most of EMC's acquisitions is to add complementary products and technologies to EMC's existing product offerings and go to the customer with complete systems of complementary information infrastructure solutions.

Prior to EMC's launch of an acquisitions binge in early 2000s, conventional thinking about IT infrastructure focused primarily on the "T" of the IT infrastructure. It viewed IT infrastructure as horizontal tiers of storage, networks, servers, operating systems, applications, and database technologies. In its attempt to become an "information infrastructure" solutions company, EMC recognized the need to emphasize the "I" as well. From an information perspective, EMC asked: How do our customers create information? How do they move it? How do they store it? How do they protect it? How do they optimize it? How do they leverage it? And, do we have the products and technologies to address all of these information needs of our customers? The strategy to meet all information infrastructure needs of the customers motivated EMC to launch an acquisition binge:

> *We knew how to build storage platforms… We felt there were four things that we did not have, that we were going to need to add value to that space: security, content management, resource management, and virtualization. We then said we're going to need to get that knowledge and expertise, and profit. So we started off on an acquisitions binge the likes of which have rarely been seen in this industry… To the outside world, this almost looked insane. Anyone would say, "Why is a storage company buying a document management company, or a network virtualization company, or an image capture company? I don't get it! And how in the world are they going to integrate all of those companies and all of those technologies together? Isn't this more than one company can bite off and chew?" Amazingly, actually, not by accident at all, every single one of the major acquisitions that we made fell very, very nicely into those four categories of security, content management, virtualization, and resource management.*[2] — *Ken Steinhardt, Chief Technology Officer for Customer Operations*

At the time, the concept of Cloud Computing was not yet popular, but the strategy to move into the entire spectrum of information infrastructure solutions would position EMC well for competing in the Cloud Computing space a decade later.

As EMC started to acquire companies to fill in the gaps in its portfolio of product offerings, Tucci provided some strategic direction that would shape the company's acquisition integration approach. He repeatedly said that he did not want to crush the "DNA" of the acquired company. To

[2] Ken Steinhardt, "Information Infrastructure," 2007 EMC Forum Keynote presentation in Denmark. Accessed from http://www.youtube.com/watch?v=RRSeiaf3l3w.

him, specialization is important, and it was critical for EMC to take advantage of the new products and services EMC had acquired.

In terms of the tradeoffs entailed in the profitability and growth objectives of acquisitions, EMC has sought to achieve profitable growth, but it has primarily emphasized revenue growth.

> *We are concerned about profitability. But shrinking an acquisition to profitability and picking up some kind of distressed asset doesn't give you a lot of future potential. We are really attracted to acquisition targets that are still on a growth side of the curve. We are not going to choke that off and curtail that growth.*
>
> *— Gerry McAndrews, Senior Director, Integration Management Unit, Corporate Development*

The strategic direction provided by the CEO influences and guides decisions about the extent and speed of acquisition integrations in general and IT M&A integrations in particular.

> *An important component in IT integration is to understand the business strategy around the acquisition. Are we making the acquisition to buy the people? Is it the intellectual property that we're after? Is it the distribution channel? Is it the patents that we're after? Is it a customer base that we're hoping to capture? What is it? That helps us to be able to assess the degree of integration that is going to be required in the ultimate end state. We don't have a one-size-fits-all mentality. Sometimes we will acquire companies and run them fairly separately. In other cases we'll acquire companies and will want to integrate wholly and immediately. It really depends upon the business strategy.* *— Jon Peirce, Vice President, IT Global Infrastructure Services*

Categories of EMC's Acquisitions

EMC's acquisitions can be classified into four categories: (1) tuck-in, (2) adjacency, (3) platform, and (4) option. Exhibit 6 presents examples and strategic intents of each category of EMC's acquisitions.

A "tuck-in" acquisition adds a complementary technological component to a product of an existing EMC business. Most small, private company EMC acquisitions fall into this category. The strategic intent of tuck-in acquisitions is usually to gain access to complementary technologies and customer segments of targets.

An "adjacency" acquisition fills in a gap in the complementary product offerings of an existing business unit of EMC. For example, exhibit 7 shows seven complementary product offerings of the storage business. This business unit competes with its rivals not on individual storage products per se but on a system of complementary storage products. Offering a complete system of complementary storage products can increase its chance of winning customer's business relative to that of a rival that competes only on a subset of the seven complementary products. As exhibit 7 shows, by acquiring Isilon systems, the storage business added the "scale-out NAS" products to its portfolio of complementary products. With this addition, it increased its total addressable customer market. It also made it more difficult for rivals to match and imitate its system of complementary product offerings.

A "platform" acquisition adds a new product platform to EMC's portfolio of business units. For example, the acquisition of RSA security in the growing information security product market created a new product platform for information security solutions in EMC's business portfolio. It also created a new profitable growth platform for EMC.

An "option" acquisition brings an emerging technology to EMC. There is high uncertainty as to whether or not the emerging technology will become complementary to EMC's existing technologies over time. By acquiring the emerging technology, EMC creates presence in an emerging product market. As in the acquisition of VMware, EMC keeps option types of acquisitions autonomous and retains the right to inte-

grate them (or not) with its other technologies at a later point in time depending on how the technologies and their interrelationships evolve over time.

Identifying Acquisition Targets

Proposals to acquire a company come from two main sources at EMC. The CEO and his corporate staff identify opportunities for platform and option types of acquisitions. Business unit executives identify opportunities for tuck-in and adjacency types of acquisition needs of their business units.

> *Prior to 2006, EMC did not have a security division. Joe Tucci and his staff determined that security was increasingly important to customers and EMC should have some kind of security group associated with the storage group. To address that question, a study was done on the security market and landscape. This occasion then led to the acquisition of RSA [platform acquisition]… On other occasions, we see business units driving M&A activity. Our business units know their objectives and strategic roadmap. M&A may be used either to expedite a technology or to acquire a customer set… Our business units know their competition. They know which target companies may be complementary to them. When their Business Development team gets to a point where they've identified a target, they are asked, does it fit into the strategy, is this the right target? When comfortable and after some socialization through management, then an acquisition more than likely will take place.* — *Gerry McAndrews, Senior Director, Integration Management Unit, Corporate Development*

Once the CEO and business unit executives identify acquisition targets, the corporate development office analyzes them and helps build the business case for them before they can be presented to the M&A Committee of the Board of Directors for approval.

The staging and sequencing of the platform, adjacency, and tuck-in types of acquisitions entail disciplined, coordinated actions. Every few years, EMC acquires a big company and uses it as a new product platform for follow-on adjacency and tuck-in types of acquisitions in entering promising new product markets. For example, EMC acquired Documentum in 2003 to form an information intelligence business. Then EMC used it as a platform to add several adjacency (e.g., Document Sciences) and tuck-in acquisitions (e.g., Kazeon Systems), and expanded its reach and strength in the information intelligence market.

> *My strong, strong preference is to do a string of pearls and go after the smaller companies with leading technology. If the right bigger thing came along and I thought it was incredibly accretive and we had the ability to digest it relatively quickly I would look at it.*[3] — *Joseph M. Tucci, Chairman, President, and CEO*

Organizing For and Governing Acquisition Integrations

EMC used to acquire small companies and tuck them into existing businesses relatively easily. Around 2003, the amount and frequency of EMC's M&A activity started to increase and required the development of in-house M&A integration capabilities.

> *Prior to 2003, EMC was doing technology tuck-ins. An engineering group determined that it needed some technology. EMC ended up picking up a small company, a handful of engineers, no real go-to-market, tiny G&A, etc. When we got to 2003, we acquired bigger companies. They were public companies or growing private companies like VMware. In these acquisitions, we acquired a whole business. We had to worry about integrating a sales force, a full G&A function and R&D staff and systems. Employee counts for*

[3] Spencer E. Ante, "EMC Will Seek More Acquisitions," *The Wall Street Journal*, July 22, 2010.

these acquisitions were larger than acquisitions in the past. It was not like trying to tuck 40 to 60 people into an existing EMC group. We had EMC people looking at integrations at the time. With these larger acquisitions, we had to spend a lot more time refining the integration practice. We did get outside help over time. EMC built up a foundation for the integration practice. We recorded what worked and what didn't. Over time, we continue improving the integration practice. We have linked integration into the front-end of the deal process. This provides a nice closed loop process. Relative to integration, EMC is a continuous learning organization.

— Gerry McAndrews
Senior Director,
Integration Management Unit,
Corporate Development

EMC establishes a strong governance structure for acquisition integration (see exhibit 8).

On the ground, there could be about 15 functional M&A integration teams each working with its counterpart from the target to plan and execute functional integrations. The M&A integration teams in enterprise-wide shared service functions such as IT, HR, and finance have core teams of professionals dedicated to M&A integrations. Other functions form and disband M&A integration teams depending on the demands of each new acquisition.

In the middle, an Integration Management Unit (IMU), housed in Corporate Development, has overall responsibility for acquisition integration. The IMU is led by a senior executive who has significant managerial experience across various value chain functions of EMC, strong program and project management skills, and strong relationships with various stakeholders in the company. The IMU's leader plays a program management role across all business functions and coordinates all of the functional M&A integration teams. This role can span from examining deal strategy, due diligence, contract negotiation, price negotiation, through integration. In integration, the IMU is involved in the first three to six months of the integration to help onboard an acquired company to the business unit sponsoring the acquisition. The role of IMU ends when the sponsoring business unit feels that it owns the acquired company and starts to manage the rest of the functions itself.

Above the IMU, there are two levels of escalation for making key strategic decisions and resolving emerging issues in acquisition integration. An operations committee is comprised of executives from the EMC business unit sponsoring the acquisition, corporate development, sales, operations, and services. The executive committee includes executives from EMC (e.g., the CFO, the business unit sponsor), and target (e.g., CEO of the acquired business). Depending on the breadth and depth of an acquisition integration project, more executives may participate in the operations and executive committees. The integration decisions made by the executive and operations committees guide the work of the IMU and the functional M&A teams.

EMC's IT Function

EMC has a centralized IT function.[4] The CIO reports to the CFO. As of early 2011, there were four subgroups within the IT function (see exhibit 5):

1. IT Global Infrastructure and Services (GIS): responsible for EMC's physical IT assets, networks, storage, and helpdesk services.
2. Global Security Organization (GSO): responsible for risk management and information security.
3. Service Delivery Group (SDG): responsible for development of IT applications, middleware, and database management for businesses.
4. Business Technology Group (BTG): serves as a liaison between the IT function and business units. BTG has three business CIOs, B-CIOs, managing the relationships between IT and the business units. They are responsible for business process analyses, business unit rela-

[4] The exception is VMware, which is run as a separate company with its own IT organization.

tionship management, business case development, and the IT budgets of business units.

Historically, GIS and GSO operated as cost centers that served the entire enterprise. SDG and BTG provided dedicated services to business units and charged their services back to the businesses. In recent years, the IT function has been moving away from this governance model toward cloud computing and IT as a Service, where all four IT groups are beginning to run their services as a business (e.g., IT Infrastructure as a Service, IT Security as a Service, IT Applications as a Service), offer their services to all businesses across the enterprise, and charge them back to the businesses.

EMC's IT function serves about 48,500 internal users and more than 400,000 external customers and partners. It manages five data centers and about 500 business applications running in more than 80 countries with 20 different languages.

Developing, Maintaining, and Refining an IT M&A Integration Capability

The IT function of EMC has nurtured a core team of about five IT professionals for managing IT M&A integrations, retaining the lessons learned, and reapplying them in new acquisitions. The team is led by a senior IT manager who has significant experience and skills in IT project and portfolio management, in managing interfaces between business and IT, and in developing and maintaining strong relationships with relevant stakeholders in the business and IT functions of the company. Other members of the IT M&A integration team are also senior, experienced IT professionals capable of doing hands-on IT integration work if the volume of M&A integration activity is low. When the volume increases, they can shift to program management roles to assemble and lead surge resources such as consultants, contractors, and additional internal resources.

This skill set is important for addressing the unique demands and challenges of IT M&A integration projects, which tend to be more complex and have larger scope than regular IT projects. These skills cut across all IT infrastructure components and business applications, and touch a large number and variety of stakeholders in the business and IT functions of both acquirer and target. An IT M&A integration project entails multiple objectives that often conflict with each other, e.g., complete acquisition integration quickly in a compressed timeframe, at the lowest possible cost, without disrupting the target's business; and enable the target to achieve revenue growth objectives set by EMC to realize original strategic and economic objectives that motivated the deal.

The IT M&A integration team is housed in the GIS (revisit exhibit 5). Almost all acquisitions require some level of IT infrastructure integration and migration that needs to be achieved relatively quickly after the deal closes (e.g., secured network connectivity, client device migrations, email exchange migrations, desktop support migration). In comparison, the extent and speed of IT application integrations tend to exhibit wide variability across different acquisitions. The team works closely with relevant resources in GSO, SDG, and BTG to plan and implement IT infrastructure and IT application integrations. The team also works closely with the IMU, other functional M&A integration teams of EMC, and counterparts from acquired companies in planning and executing IT M&A integrations.

As exhibit 2 shows, the sizes, types, and frequencies of EMC's acquisitions vary. Thus, the firm is able to maintain the dedicated IT M&A integration team at any given time.

> *Around 2004, we started to have more of a dedicated IT M&A team. The volume of M&A was fluctuating—we did not spend 100% of our time on M&A integrations. We were working on both IT M&A integrations and other internal IT projects. We tried to maintain the dedicated IT M&A team so that when a new M&A hit, we would have consistency in our IT M&A integration approach.*
>
> *— Chris Williamson, Senior IT Program Manager*

> *The dedicated team is very senior in their experience. They shift their role up and down based on the volume and complexity of the acquisitions. If we go*

through a slow period, they can wear multiple hats. If we get into a situation where we have a number of new acquisitions coming on board, and we have to scale up, that core team is senior enough where they can scale up as well. They would become much less hands on, and they could assume program management roles where they're managing a bunch of project managers. We also just surge based on the number of resources we need to manage the integration. We've worked with a number of consulting companies over the years to provide surge resources, and typically, program project management types of resources to help us with the integration. There is definitely some limitation to scaling up, but we haven't hit that. Ultimately, the limitations are more from the functional teams, whether it's the infrastructure engineers, or the security engineers, or whether it's the business functions themselves. How many acquisitions can they integrate at one time? How many resources do they have, and how well, can they scale? From an IT M&A team perspective, it is a little easier for us to scale than it is for the functions that we work with. — *Stacey Barie, Senior Manager, Head of IT M&A Integrations*

The IT M&A integration team continuously strives to retain IT lessons learned from each new acquisition integration project and transfer them to new acquisitions. The team codifies procedural aspects of IT M&A integrations into cookbooks, templates, checklists, questionnaires, and updates them when a new lesson emerges.

We have tried to capture and distill our acquisition integration experiences into a set of questions, which we refer to as the business application integration "cookbook." The "cookbook" has a series of questions that try to elicit from the acquisition what areas of the business application integration we need to be concerned about based upon the lessons we've learned from previous integrations. We ask these questions as part of the assessment phase of acquisition integration in order to gain a detailed understanding of the process and systems gaps we will need to resolve.

— Joseph P. O'Boyle, Senior Manager, Accenture

The IT M&A integration team also seeks to leverage tacit lessons across acquisitions by reusing the same internal and external human resources across acquisition transactions. Thus, the firm is able to maintain and refine its IT M&A integration capabilities on an ongoing basis despite the volatility in M&A activity.

A best practice across EMC is to leverage the same resources over and over for our acquisitions. On the IT side, we tend to leverage the same resources all the way through to development and engineering. For every acquisition integration, we have to bring security resources to the table to help design and implement secure connectivity. We have to bring infrastructure engineers to the table as part of that design. By doing these acquisitions you understand what the challenges are, what the risks are. So the more experience you can bring to the table, the more effective your integration approach is going to be. — *Stacey Barie*

Other functional M&A teams also continuously strive to capture their lessons, improve their integration practices, and contribute to EMC's institutional knowledge on M&A integrations.

I would argue that the other functional groups do the same. You get the same people from HR, facilities, etc., their expertise, institutional learning. These groups have documented their processes. We get repeatability from their processes and personal experiences. We have found that to be important.

— Gerry McAndrews Senior Director, Integration Management Unit, Corporate Development

Conducting Pre-Deal IT Due Diligence

Exhibit 9 presents key stages and milestones of EMC's M&A methodology. As noted, the target identification stage is the responsibility of the CEO and business unit executives. Very small teams working with these senior executives identify acquisition targets under non-disclosure. The CIO, other functional leaders, the IMU, and functional M&A teams are not involved in the target identification process or in the development of preliminary estimates about deal economics. At this stage, any estimates about integration costs are based on prior experience and educated guesses.

> *We don't need the IMU to be involved that early on in the target identification stage. As we build a preliminary model, we know that there will be some estimates. At this stage, we do not have the benefits of the due diligence process. In some cases or some key assumptions, we need to guess, hopefully, making educated guesses. Through experience, we'll know, for example: if a company has 400 people, IT requirements and expenses should be known. To help with the preliminary model, we do look at precedent transactions.* — *Gerry McAndrews, Senior Director, Integration Management Unit, Corporate Development*

Once a target is identified and the acquisition is approved by the M&A Committee of the Board of Directors, a letter of intent (LOI) is issued to the target. Then, the M&A governance structure in exhibit 8 is set up, and functional M&A teams are formed to conduct pre-deal due diligence.

> *When we get into due diligence, it is where we're going to really spend money, and that's where the actual estimation numbers will come in.* — *Gerry McAndrews*

The engagement of the IT M&A team usually begins after the LOI is issued. In some transactions (e.g., Data Domain), EMC teams cannot conduct any due diligence in the target until after the financial deal closes. In others, EMC's functional M&A teams have access to the data room of the target and a limited number of target managers who can help fill out their due diligence questionnaires. The teams may be asked to sign non-disclosure agreements to protect the confidentiality of the target's information.

The due diligence phase is usually short, only about two weeks. Access to the target's data is limited. In this phase, objectives of the IT M&A team are to develop a high level understanding of the target's IT environment, identify any gaps in target's IT that require capital investments, estimate potential IT integration risks and costs, and develop preliminary IT integration budgets and plans.

> *Typically the due diligence assessment is really to help us put together a plan of record that allows the company to model out the purchase offer and make sure that the purchase price is appropriate given the costs of integration that we see down the road.* — *Jon Peirce, Vice President, IT Global Infrastructure Services*

The IT M&A team meets with its counterparts at the target and seeks to have its due diligence questionnaire completed to gather the information needed for developing its plan of record.

> *We conduct a number of meetings with the target as part of the due diligence. We have a standard due diligence questionnaire—a pretty large questionnaire—that goes out to the target. We try to gather all of the critical information that will help us determine two things: (1) What's the appropriate integration approach? Is it full integration, do we leave it alone, or is it some type of hybrid? We're not always able to make that decision at that point. (2) The due diligence helps drive what we call our plan of record, which is our integration plan and our integration budget. The end goal of the due diligence is to have a rolled up plan of record for the entire acquisition*

that says this is what it's going to cost us to integrate this company.

— Stacey Barie,
Senior Manager,
Head of IT M&A Integrations

The amount and quality of information gathered during the short time window of the due diligence phase vary significantly across acquisitions. In small acquisitions, the target may not have an appropriate IT counterpart with whom EMC's IT M&A team can interact. Large targets have IT units, but their IT documentation maturity may vary depending on whether they are private or public. In large private targets, the documentation of the firm's IT environment, IT governance, IT applications, and IT controls may not be as detailed as large public targets that prepare such documentation as part of their efforts to comply with regulations such as Sarbanes-Oxley Act (SOX).

Previously developed questionnaires, cookbooks, and templates enable the IT M&A team to rapidly gather the information it needs in the short time window of the due diligence phase.

We have a number of individuals within our shared IT infrastructure service who have become M&A experts so they've developed these cookbooks that allow us to go into a new target acquisition and be very effective around our estimation methodology. *— Jon Peirce,*
Vice President,
IT Global Infrastructure Services

Reusing the same human resources across acquisitions also enables the IT M&A team to make more accurate budget estimations and remain within them during the execution phase.

We have folks who have a tremendous amount of experience in doing this. We keep adding questions or making changes to our due diligence questionnaire as necessary. We have a plan of record template, a workbook that is very detailed that allows us to estimate both our resource effort and capital costs. We've become very good at knowing what the cost drivers are for the integrations based on application complexity, business processes, facilities, people, those types of things. Because it's so early on in the process, and we only have access to very limited information, and our due diligence process is typically only about two weeks long, it is a very short window to get all of the information we need. So we tend to estimate the worst case.

— Stacey Barie

After completing their due diligence, all functional M&A teams submit their plans of record to the IMU. If the teams do not identify any major issues with moving forward with the deal, the IMU presents the aggregated plan of record to the executive committee for approval. In parallel, they negotiate the final deal with the target. Then, the deal is signed and closed. The sign and close can either happen at the same time or there can be a delay between them, if approval is required from regulators or shareholders of public targets. Once the deal is signed, the veil of secrecy is lifted and the target's and EMC's entire organizations are notified about the deal.

Developing Detailed Post-Deal IT Integration Plans

Consistent with Tucci's strategic directive to retain the specialization and talent of the target, and to accelerate its revenue growth, IT M&A teams work with their counterparts at the target collaboratively to jointly decide on the appropriate level and speed of integration.

When we come in, it's very collaborative. We're very sincere about truly understanding their business. How do they execute? What are their best practices? We work together to make sure that we don't have a negative effect on their business and on their success. One of our core mantras, in every kickoff presentation that we do with a new acquisition, is "do no harm," and that's across all the functions. That's not specific to IT. I think we truly live that and the target companies appreciate that... We are figuring out integration collaboratively rather than just saying,

"Look, we've acquired you and you're going to assimilate into EMC." We would say one of the reasons that we're successful in acquisitions is because we take this collaborative approach to integration. — *Stacey Barie, Senior Manager, Head of IT M&A Integrations*

EMC's strategy to retain the specialization and talent of the target builds trust with target's employees and reduces concerns about losing jobs. This in turn creates a psychologically safe climate for integration discussions and enables integration teams to make rational, fact-based decisions about the appropriate level and speed of integration.

Once the deal is signed, EMC's M&A teams begin working with their counterparts at the target to develop detailed integration plans.

At day one, we're getting in contact officially with a lot of folks that we couldn't contact in the due diligence stage. We'll meet with them for a week and just go through some planning meetings and try and develop a gap analysis. We introduce them to our process and let them know how we align with them. We listen to how they do their business, take notes, ask questions. Then we go through our business, tell them how things work. Then over the next week or so, we pull together a gap analysis. — *Mike McLaughlin, Director of Finance, Business Technology Group*

There are two core threads to the post-deal IT integration planning: (1) IT infrastructure integration, and (2) IT application integration. Decisions about the extent and speed of the IT infrastructure and application integrations are made on a case-by-case basis based on the strategic intent and business case behind each acquisition.

The extent and speed of acquisition integration depend upon the goals of the acquired business, the market that the business is competing in, and really how mature the business is. There are some acquisitions that are at a stage in their growth curve where the business is chasing a massive market opportunity. Basically, our job number one is to not get in their way and to help them in any way possible. In those cases, we will try to be as unobtrusive as we can. We don't want to slow anybody down because ultimately that's what the business case of the acquisition is based upon. In some other cases, it's much more dictatorial where we will come in and say OK, on day 90 your ERP system is going to be decommissioned. We will have converted all your customer information into our system and you'll be on our system. — *Jon Peirce, Vice President, IT Global Infrastructure Services*

Business decisions on the desired end state of the integration also guide IT integration decisions.

Before we really get into the nuts and bolts of the application integration, we need to know what the end state is. Is the acquired business going to be fully integrated? Will we leave them alone? Or, will it be a hybrid integration? That will really drive the scope, budget, and timeline of the application integration. — *Mike McLaughlin*

However, as noted, integration decisions made during the due diligence phase are based on limited data and interactions with the target. They are not yet at a level of detail that can provide specific guidance for IT integration decisions.

The questions asked during due diligence do a decent job of exposing high-level risks that will impact the business application integration. However, to reach the level of detail we need to execute the business application integration, we need to achieve a clear understanding of the process and systems gaps between EMC and the acquisition. Additionally, some of the key business decisions are not initially made at the level of detail that allows the business application integration activities to be completed. The analysis and design of the desired end-state is very much a

shared responsibility between the IT M&A team and functional M&A teams: functional teams need to weigh in and make the business decisions; the IT M&A team needs to help the functional teams understand the constraints and costs of the options being contemplated.

— Joseph P. O'Boyle, Senior Manager, Accenture

In the post-deal phase, IT M&A teams go through a more detailed assessment and planning process to highlight the key business decisions that need to be made at a level of detail that can enable IT integration decisions. IT M&A teams identify and bring those business decisions to the attention of the integration leadership.

Let's take the example of how the sales forces of the two firms will interact. Do you have an acquired company with a sizeable sales force? How is that sales force going to interact with the EMC sales force? Who will be responsible for managing and owning the customer relationship? Can the acquired company continue to hunt for new customers independently, or do they always need to work with the EMC sales force? While these questions in a number of cases do not specifically map to business application functionality, they help the IT M&A team understand how the acquired company will operate and interact with other players on the consolidated business application platform. Otherwise, you may encounter situations where the two sales forces struggle to collaborate on the same tools. People may feel "that was my quote, they're changing my quote without my permission, they shouldn't have access to it, etc." In order to avoid these conflicts, we need to identify these issues early and help the integration leadership make decisions about the interaction model between the two sales forces. These decisions need to be made at a level of detail that allows the IT M&A team to implement the desired end state and communicate the processes to the field organizations clearly.

— Joseph P. O'Boyle

IT Integration Options

Exhibits 10 and 11, respectively, present the IT integration options considered by EMC and targets in deciding on the levels of IT application and IT infrastructure integration. IT integration level can range from full integration through hybrid integration to no integration at all.

Full IT integration means that the target migrates to EMC's systems and applications. EMC prefers the full integration mode especially in tuck-in and adjacency types of acquisitions because the technologies and products of those acquisitions need to be coordinated closely with complementary technologies and products of the business units sponsoring the acquisitions. Targets are expected to conform to the processes of the acquiring business units. It is important for customers of those business units to see the products of the unit as a coordinated system of complements rather than a collection of standalone products. Full integration enables EMC and targets to expand their total addressable customer base and scale up their growth. It also enables them to share similar processes, and to leverage purchasing synergies and economies of scale. For example, when EMC acquired Document Sciences, the decision was to go for full integration although Document Sciences initially felt that it had more flexible sales processes and applications than those of EMC's.

We used a very flexible, very usable, very friendly hosted system. Our customer service representatives used that for case tracking. For us, that was a modern technology. From that we had to move to "antiquated" systems at EMC. That was probably the biggest cultural shock… But if we stayed on our existing order process platform, then none of our products would be visible in EMC's catalog. None of the reps who sold Documentum [EMC's product] could add xPression [Document Sciences' product] to a deal. None of the reps who sold storage could

add xPression into an enterprise deal they were doing. So really, we needed to get our products exposed in that item master [in EMC's ERP system]… that probably would not have happened without us being in EMC's main line order processing system. So it was a tradeoff. We could stay in our own system and be completely isolated, but then we would be the only ones selling our product. Or we could move to EMC's systems, adapt to them, and roll from there. We chose to move to EMC's systems. But I won't say EMC forced us to go there. There was a compelling argument to go there.

— David Barker,
Senior Director of IT,
Document Sciences

Full IT integration increases the risk of disruptions in targets' operations and revenue growth. But managers in small targets are often willing to give up their systems and applications and endure some pain because EMC's systems and applications promise to accelerate and scale up their revenue growth.

There was a company we bought that used a subscription model. They did 80% of their business that way. We couldn't bring them on to our systems and still have them do that. There were several discussions before we finally could agree to have them do business the way EMC's global process could support. They did push back as this was obviously a major change. But they also realized that in a short time their volume would grow from 40 or 50 deals a quarter to hundreds of deals per quarter and that would be driven by EMC's direct sales and channel partners. The plan of record for the acquisition was aggressive and the need to achieve revenue goals could only be met by leveraging EMC's global sales force and channel. When the long term benefit was weighed against the short term pain, it made the decision to move to EMC's process and systems a lot easier.

— Mike McLaughlin,
Director of Finance,
Business Technology Group

Hybrid IT integration means that the target shares some IT resources with EMC while retaining some of its distinct IT resources. This option is used mostly in large adjacency type or platform type of acquisitions where the incoming target becomes a new product or business line within EMC. The target has decent size, relatively mature systems, processes, and applications. Integrating it fully and rapidly into EMC could cause disruptions and hurt revenue growth. The target has a lot more flexibility in deciding how it wants to operate. But because the product offering of the target is so close to EMC's core business, there is a need for it to be operating with some level of standardization. Data Domain is an example of an adjacency type of acquisition by EMC's storage business. It was set up as a separate product line within the storage business and integrated with a hybrid IT integration approach.

Limited or no IT integration means that the target's IT infrastructure and applications are mostly left alone. This IT integration option is used mostly in platform and option types of acquisitions where EMC runs the incoming target as a relatively autonomous business unit and does not seek to integrate its products with those of other business units. The target drives its own processes and tools to support its operations. RSA is an example of very limited IT integration whereas VMware is an example of no IT integration at all.

RSA has not completely come onto our systems. There are good reasons for this. From an order processing perspective, our core ERP system was not built to handle products like Secure ID. It didn't make a lot of sense to add a major customization to EMC's ERP and impact RSA's business. When you add the fact that we don't see intensive joint selling, an integrated go to market operationally between RSA and EMC, there's not a strong business need for heavy application integration. We do have some application integration for financial reporting and

other back office activities that make sense as a way to increase efficiencies and cost savings. *— Mike McLaughlin, Director of Finance, Business Technology Group*

Winning the Hearts and Minds of the Target's Managers and Employees

EMC's strategy to retain the specialization and talent of a target and accelerate its revenue growth establishes trust with managers and employees of the target and helps EMC to win their hearts and minds very early on. A case in point is EMC's takeover of Data Domain in 2009. Data Domain was initially approached by NetApp, a key rival of EMC. One week after NetApp's announcement to acquire Data Domain, EMC made a hostile takeover offer to Data Domain and entered into a bidding war with NetApp. This was a period of tremendous uncertainty and anxiety for managers and employees of Data Domain. Their initial perception about EMC was not favorable. Exhibit 12 summarizes milestones of the bidding war.

We were still in talks with NetApp management. There was a lot of anxiety amongst all team members: "How would the organization look like once NetApp acquired us?" The first thing that came to people's minds was job security. The merger simply was not firm until shareholders approved of it… When EMC entered into the equation with a takeover attempt, employees worried more about their jobs. Understand that during this entire process, we did not talk to anyone at EMC. We were still in conversation with NetApp as we had already signed a merger agreement with them.

— Ron Sha, CIO of Data Domain

EMC was not allowed to communicate with Data Domain during this period. But, in an open letter to shareholders and managers of Data Domain, through *The Wall Street Journal*, Tucci reiterated EMC's strategy to retain the specialization and talent of acquired companies, and promised to retain the people of Data Domain and keep Data Domain as a separate business line in EMC. This public communication proved to be a turning point for winning the hearts and minds of Data Domain employees.

The open newsletter in The Wall Street Journal *was very powerful. It helped change employee perceptions about EMC. For instance, people started saying, "They're not going to change anything. EMC will utilize existing Data Domain management. EMC is a large company, has a large consumer base, and has a global reach. Perhaps, it might be a good fit. There's possibility for a lot of synergy." Especially when EMC said that they were not intending to change the way in which Data Domain was managed and operated, employees at least initially felt that if that were the case, their jobs would be more secure, that they would prefer to stay with EMC. NetApp never made that kind of commitment… In those respects, EMC played the early stage correctly in winning over the opinions of the employees.* *— Ron Sha*

When EMC won the bidding war and the deal closed, M&A teams moved in quickly to reinforce the initial trust.

I'm not speaking only for myself, as I had also spoken with other Data Domain executives who gained similar impressions. They were impressed in how EMC was organized and with the way they showed respect not only to our organization but also to our way of doing things. It was a collaborative approach where we set up the integration work streams together. Executives from both companies co-led the work. They actions conveyed a message that we were working as a team versus them saying, "Hey, we just acquired you, and you will do it our way." That helped quite a bit in building much initial trust. *—Ron Sha*

Executing the IT Integration Plans

In executing the IT M&A integration plans, priority is given to achieving basic infrastructure connectivity and application functionality for the target. In IT infrastructure integration, secure network connectivity, email, and end-user migrations take priority. One challenge is to ensure that these integration activities do not disrupt regular operations of the target or EMC. Since EMC often integrates multiple acquisitions simultaneously, another challenge is to coordinate implementation resources and schedules.

> *Smaller companies barely have enough resources to do their core job. Taking time away from them to focus on integration activities has an impact. We explicitly acknowledge that this will have an impact on people's other responsibilities. We get additional resources to help or back fill on both sides, both within EMC and for the target. From a revenue perspective, we try to be realistic and understand what the potential impacts are. Another challenge from a resource perspective is to coordinate very specific execution activities across multiple integrations. For example if we have a couple of different acquisitions, and we're migrating end users onto the EMC network, that takes a lot of field support. We have to carefully coordinate the schedules of our limited field support staff in order to ensure we meet our dates.*
>
> *— Stacey Barie,*
> *Senior Manager,*
> *Head of IT M&A Integrations*

In IT application integration, payroll, benefits, and some statutory and tax filings take priority.

> *In almost every case, all of the human resource processes and data are transitioned to EMC's HR system, PeopleSoft. From an accounting point of view, we will immediately create a new company code on EMC's general ledger and start loading monthly trial balances into the GL to provide visibility and facilitate consolidations. Later, depending on which path is selected for integration, additional processes are migrated onto EMC's processes and systems.*
>
> *— Joseph P. O'Boyle,*
> *Senior Manager, Accenture*

The implementation of application integration tasks that have to do with the alignment of the two organizations' processes and operating models are spread over time as they require design, building, and testing of new solutions, new interfaces, and training of users.

> *During the build and test phase of the integration project, the IT M&A team works with the integration functional leads to coordinate and execute business readiness activities, including: preparation for end user training, development and on-going delivery of communications, and other change management activities. Once the integrated solution is released, the IT M&A team works with the affected teams at the acquired company and within EMC to ensure that the process and system changes are adopted and are stabilized. — Joseph P. O'Boyle,*

Measuring the Success of Acquisition Integrations

In measuring the success of integrations, the IMU seeks to remain within budget and time limitations of the aggregated plan of record for an acquisition.

> *We're really driven by the budget we created. That's what we're going to try to get to.* *— Gerry McAndrews*
> *Senior Director,*
> *Integration Management Unit,*
> *Corporate Development*

In measuring the success of IT integrations, IT M&A team also seeks to remain within the budget and time limitations of its plan of record.

> *We start with our plan of record. We manage to that plan of record. One metric of success is: How well did we estimate? Did we stay within the budget? Did we stay within our timelines? Sometimes a lot of that is out of our control because a lot of what we do is driven by the business*

decisions. The other metric is cost synergies from an IT perspective, whether that be headcount or decommissioning of systems and assets. EMC's first priority in these acquisitions is revenue generation and go-to-market with the new products. Secondary, and more of a long term focus, are the cost synergies. — Stacey Barie, Senior Manager, Head of IT M&A Integrations

Acquired businesses measured the success of integration by their revenue growth and the extent to which their products became part of EMC's systems of complementary product offerings.

Because of the reach of EMC's sales force and channel, our business has been doing great. Everybody is happy with the revenues from Data Domain. Also, some Data Domain technologies already made it into other EMC products. — Ron Sha, CIO of Data Domain

We now use all of the EMC systems to process everything we do. Our sales have steadily increased. We have EMC's name and brand behind us. By acquiring us, EMC now has a complete enterprise content management solution. We can sell anything from data capture, through content creation, archiving, e-discovery, collaboration portals, all of that. There's a pretty comprehensive stack of software now within EMC. — David Barker, Senior Director of IT, Document Sciences

Getting Ready for the Next Wave of Profitable Growth through Acquisitions

Since the launch of its acquisitions binge, EMC has grown profitably and nearly tripled its sales revenues. Its acquisition strategy and integration capabilities contributed significantly to this profitable growth pattern. As of early 2011, analyst expectations about the continued profitable growth of EMC were high. EMC's business and IT executives were reviewing lessons learned to date and questioning whether and how they need to change the acquisition strategy and integration approach to architect the company for further profitable growth in the next decade. There were significant challenges and opportunities ahead.

The varying levels of integration across businesses started to create some issues for the sales force. Specialized sales forces behind the various products were having difficulty seeing the customer as one and selling EMC's products to the same customer as a complete system of complementary products.

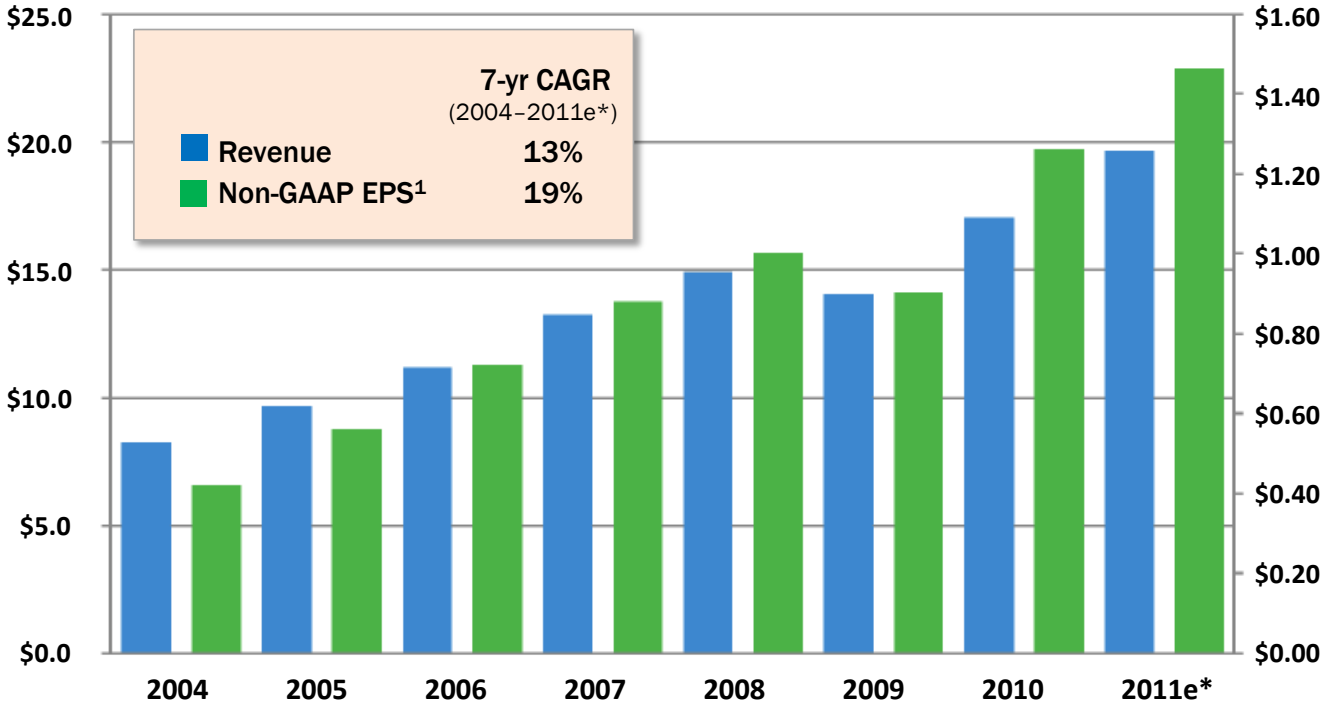
Notwithstanding these challenges, there were unprecedented growth opportunities ahead. Analyst expectations about the continued profitable growth of EMC through acquisitions were high.

How could business and IT leaders architect the company for further profitable growth in the decade ahead? As of early 2011, the IT function had already embarked on several strategic IT initiatives:

- Migrate legacy ERP system to a new ERP system in SAP.
- Build a private cloud.
- Virtualize the IT infrastructure (already achieved 75% virtualization and aiming to reach 100% by the end of 2011).
- Move to an everything-as-a-service model in IT: e.g., IT Infrastructure as a Service, IT Applications as a Service, and Business Intelligence as a Service.
- Begin to run all IT groups as a business.

While these strategic IT initiatives were not motivated by the emerging acquisition integration issues alone, they were expected to contribute positively to the resolution of some of those issues. There was increasing awareness among the senior executive leadership about the issues around acquisition strategy and integration approach. They were asking whether and how EMC could continue retaining the specialization, talent, and operating models of acquired companies, and yet start to pursue a more standardized, more consistent integration approach that could increase the scalability of the company.

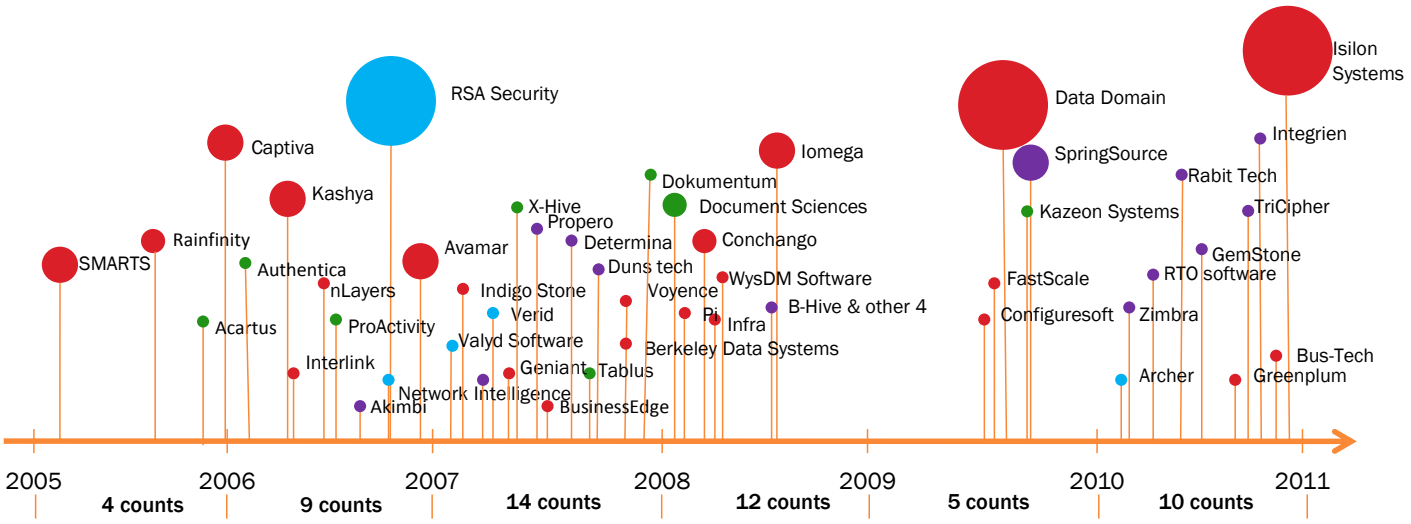
Exhibit 1
Growth and Profitability Patterns of EMC, 2004-2011



Notes:
*2011 results are estimates
[1] **Non-GAPP EPS**: Earnings per share, in which earnings are measured by excluding stock-based compensation, amortization of intangible assets, restructuring and acquisition-related charges, infrequently occurring gains and losses, and special tax items and provision for litigation from GAAP-based earnings
CAGR: Compound Annual Growth Rate

Source: Presentation by David Goulden, EVP & CFO of EMC in Q4 2010 EMC Corporation Earnings Conference Call. Accessed from http://www.emc.com/about/investor-relations/archived-events.htm

Exhibit 2
Acquisition Activity of EMC, 2005-2011

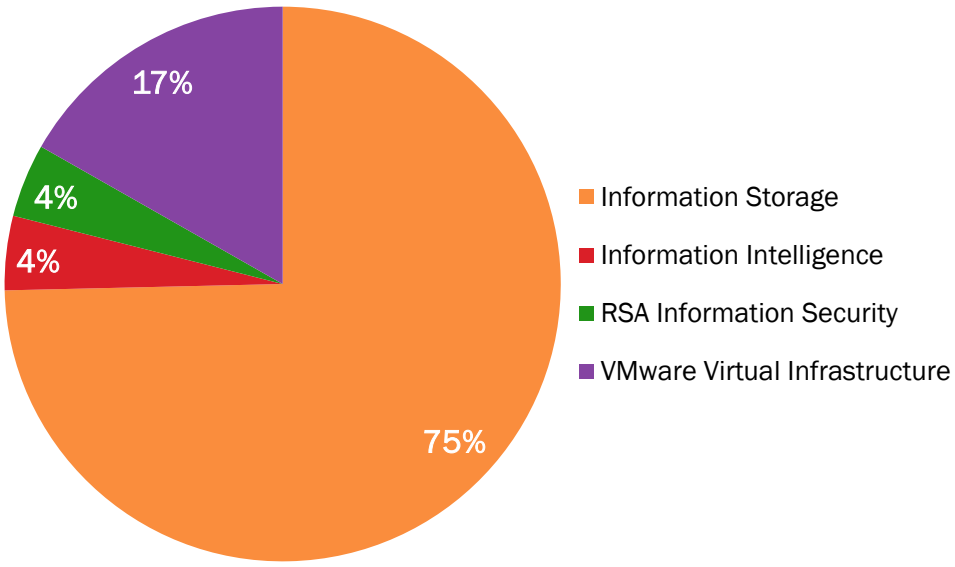


LEGEND

- Transaction value > $1 billion
- Transaction value > $100 million
- Transaction value > $10 million
- Transaction value < $10 million
- Acquired by information storage business
- Acquired by information and intelligence business
- Acquired by RSA information security business
- Acquired by VMware Virtual Infrastructure business

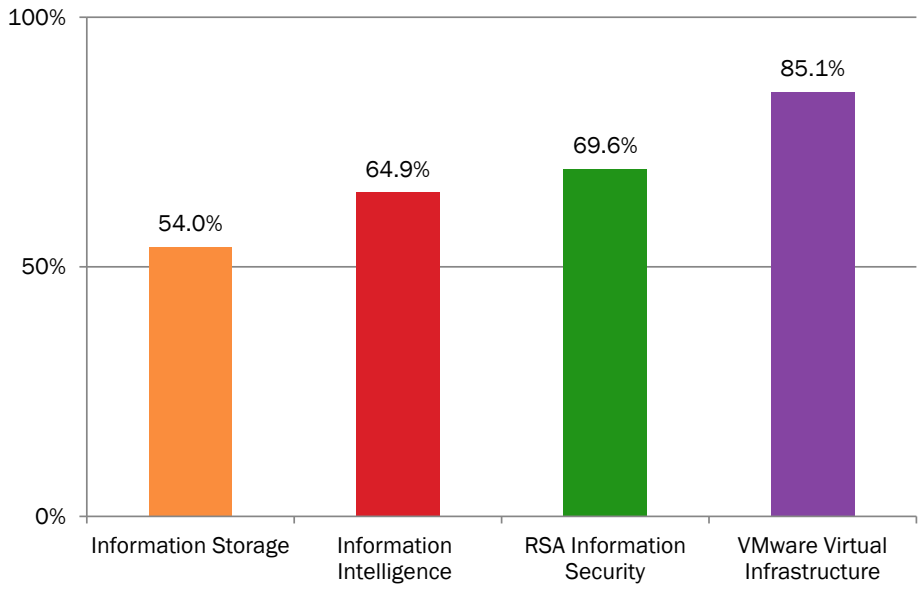
Source: Press release and annual reports of EMC, and estimations from Alacrastore.com

Exhibit 3
Revenue Composition of EMC's Business Segments



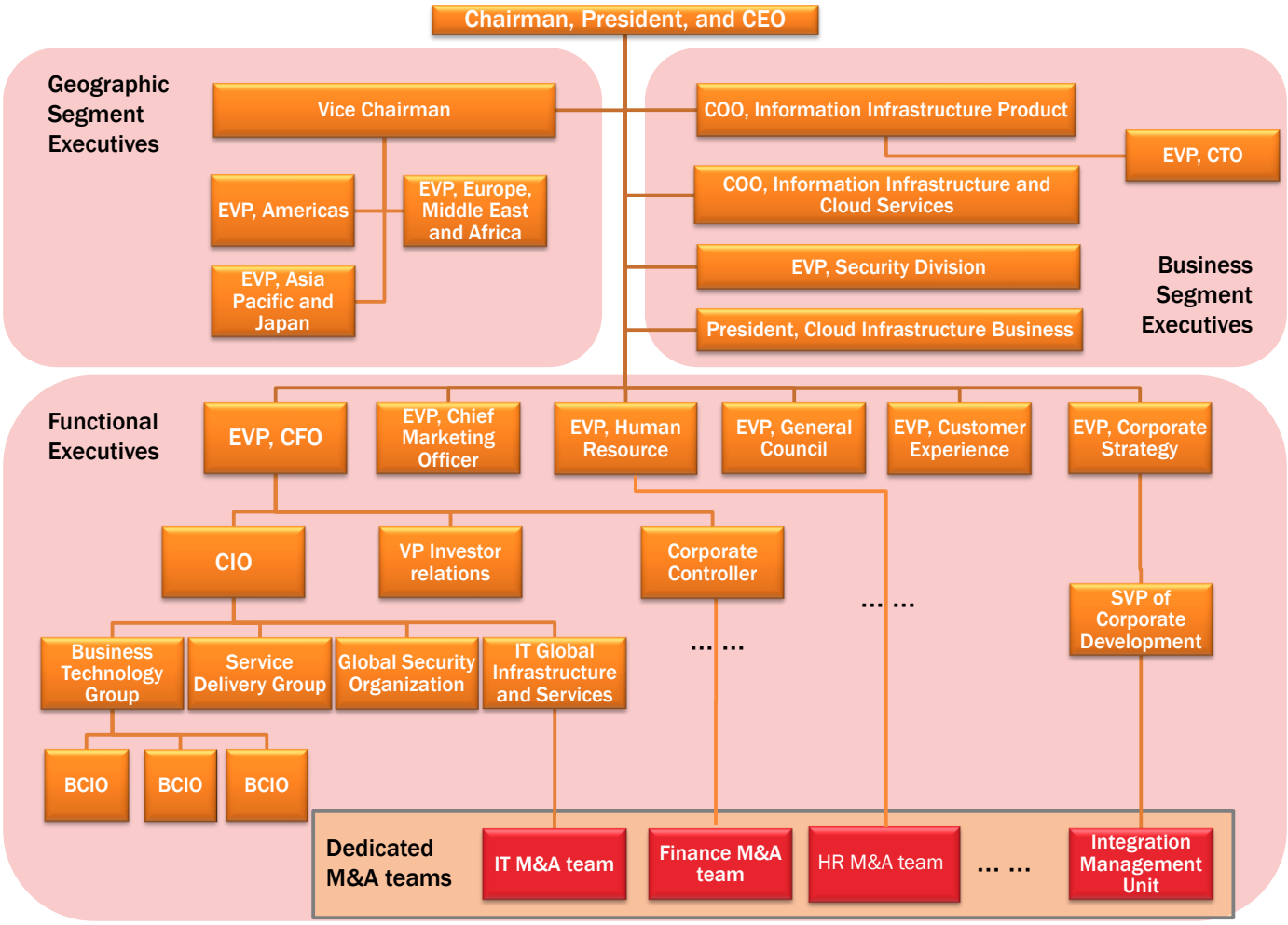
Source: 2010 Annual Report of EMC, pp. 24-27

Exhibit 4
Gross Margins of EMC's Business Segments



Source: 2010 Annual Report of EMC, pp. 24-27

Exhibit 5
Simplified Organizational Chart of EMC and Its Functional M&A Integration Teams



Source: Annual reports and interviews with M&A integration teams of EMC

Exhibit 6
Examples of the Types of EMC Acquisitions and the Strategic Intents Behind Them

Type of Acquisition	Sample acquisition		Strategic intent as expressed in EMC's M&A announcements
Tuck-in acquisition: Target adds a complementary technological component to an existing product of an existing business unit of EMC. The target is absorbed into the acquiring business unit.	Nov. 10, 2010	Bus-Tech, Inc.	Frank Slootman, President of EMC's Backup Recovery Systems division, said, "Mainframe users are not immune to the challenges with tape when it comes to backup and recovery. In a few short years, the application of data deduplication and disk-based storage has literally transformed the backup market. The addition of Bus-Tech will enable us to deliver a suite of next-generation mainframe backup products that are highly differentiated in terms of performance, integration and supportability."
Adjacency acquisition: Target has an adjacent product which fills a gap in, and expands the portfolio of complementary product offerings of an existing EMC business unit. It also increases the total addressable customer market of the business unit. Target becomes a new product line in the acquiring business unit of EMC.	Dec. 20, 2010	Isilon Systems, Inc.	Isilon's scale-out NAS systems are designed to begin small and scale quickly and non-disruptively up to 10 petabytes in size, with extremely high levels of performance and availability. EMC Atmos object storage provides the perfect complement to Isilon for massive globally distributed environments and object access to data for usages like Web 2.0 applications. Together, Isilon and EMC Atmos provide customers a complete storage infrastructure solution for managing "Big Data" in private or public cloud environments.
Platform acquisition: Target brings an entirely new product platform to EMC's portfolio of businesses. It becomes a new business unit of EMC.	Sept. 18, 2006	RSA Security	Joe Tucci, EMC's Chairman, President and CEO, said, "Information security continues to dominate the spending intentions of CIOs around the world. The battlefront in security has quickly shifted from securing the network perimeter to protecting and securing the information itself—wherever that information lives and wherever it moves." Tucci continued, "The additions of RSA … to the EMC family enable us to execute on our information-centric security strategy to help organizations around the world secure their information throughout its lifecycle and reduce the associated cost of regulatory compliance."
Option acquisition: Target brings an emerging technology to EMC. There is high uncertainty as to whether the technology will become complementary to EMC's existing technologies over time. By acquiring the target, EMC creates option value. It keeps the target autonomous and retains the option to integrate it with its existing products depending on how the technologies evolve over time.	Jan. 9, 2004	VMware, Inc.	Joe Tucci said, "Customers want help simplifying the management of their IT infrastructures. This is more than a storage challenge. Until now, server and storage virtualization have existed as disparate entities. Today, EMC is accelerating the convergence of these two worlds."

Source: Press releases of EMC. Accessed from: http://www.emc.com/about/news/index.esp#press

Exhibit 7
How EMC Uses Acquisitions to Expand its Portfolio of Complementary Product Offerings

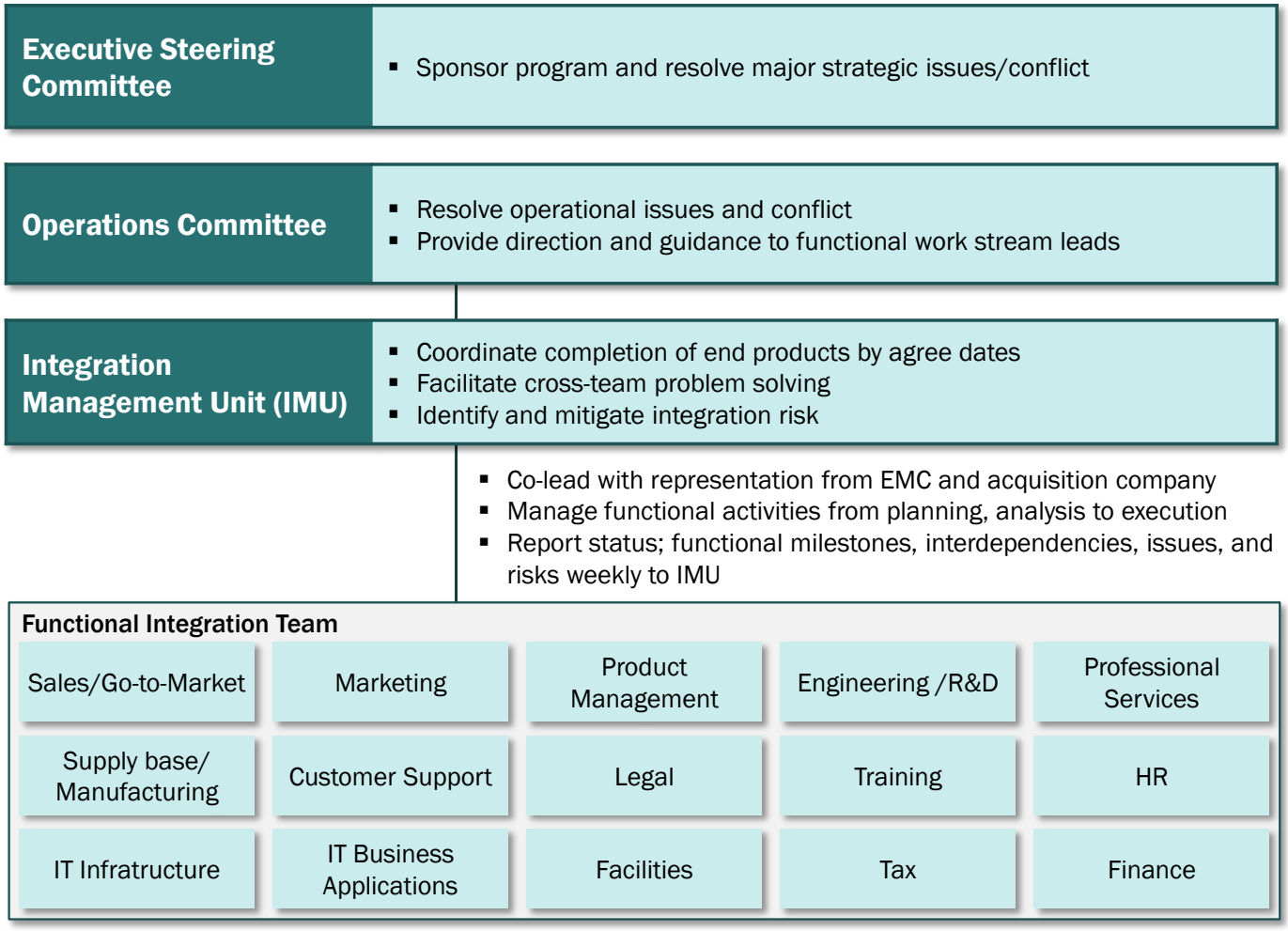
	Scale-out NAS	Scale-out Block	Data Management	Dedupe	Object-Based	Infrastructure Management	Data Warehousing
Cisco							
Dell	✓	✓		✓		✓	
EMC	ISILON SYSTEMS	✓	✓	✓	✓	✓	✓
HDS	✓	✓			✓		
HP	✓			✓		✓	✓
IBM		✓	✓	✓		✓	✓
NetApp	✓				✓		
Oracle				✓			✓

✓ : Existing products in firm's portfolio of complementary product offerings

ISILON SYSTEMS : Acquisition of Isilon fills a gap and expands EMC's portfolio of complementary products

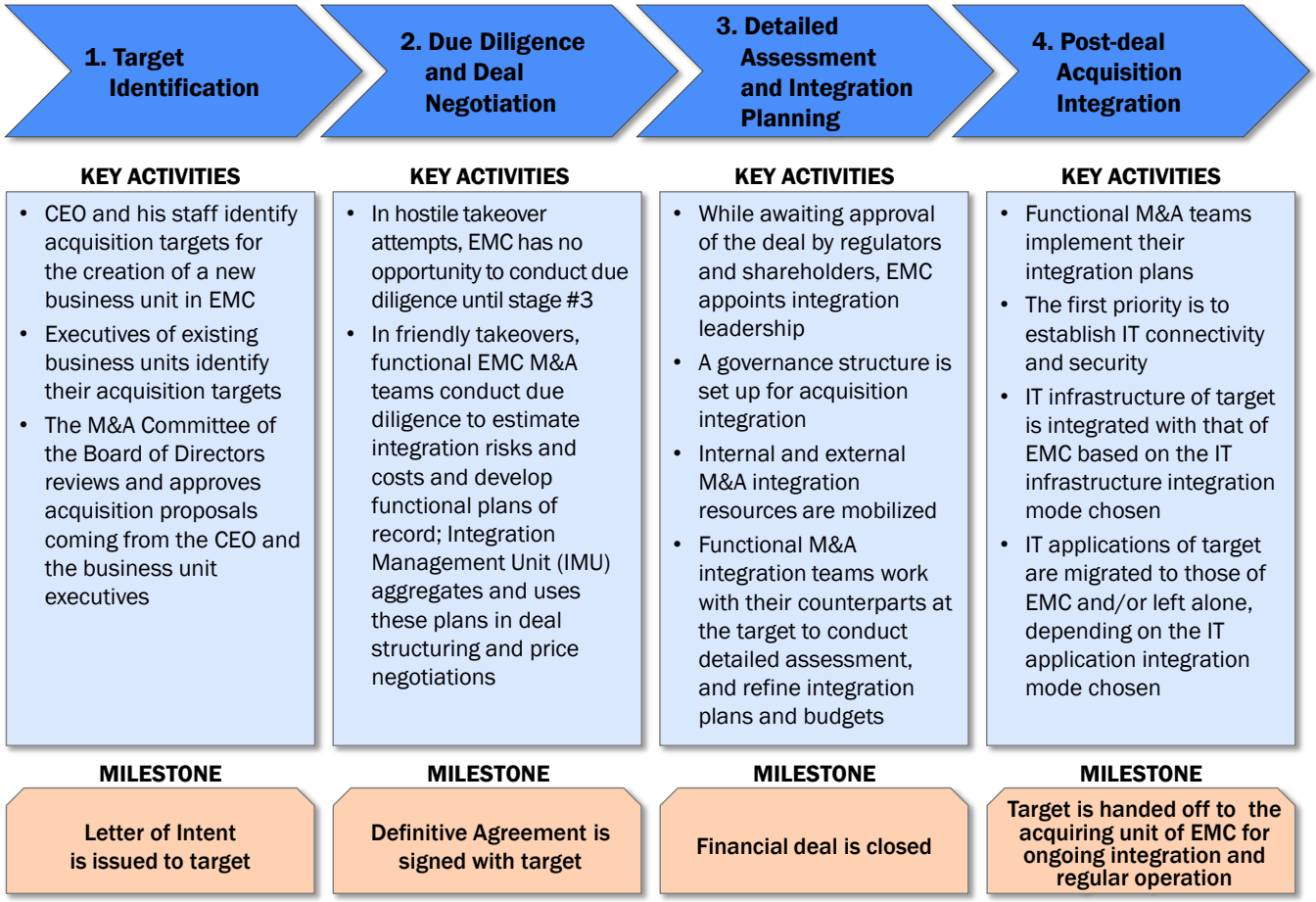
Source: Presentation by David Goulden, EVP & CFO of EMC, at EMC's Strategic Forum For Institutional Investors, Boston, February, 2011. Accessed from: http://www.emc.com/about/investor-relations/archived-events.htm

Exhibit 8
M&A Governance Structure of EMC



Source: Internal documents of EMC

Exhibit 9
Acquisition Methodology of EMC



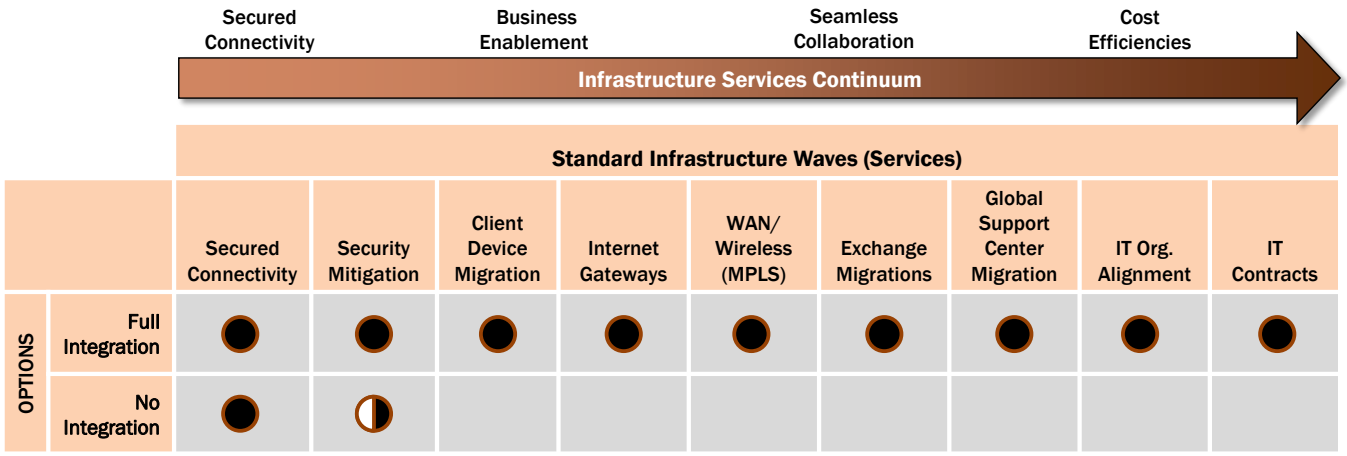
Source: Interviews with M&A integration teams of EMC

Exhibit 10
IT Application Integration Options in EMC's Acquisitions

		Financial Processes (Treasury, AR)	Manage Human Resources	Manage Sales	Perform Customer Service	Manufacturing/ Fulfillment (Direct Procurement)	View Operational Dashboard	Perform Indirect Procurement
Options	**Full Integration** Fold into existing business unit	EMC	EMC	EMC	EMC	EMC	EMC	EMC
	Hybrid Dual processes/ systems	EMC & Target	EMC	EMC & Target	Target	EMC & Target	EMC & Target	EMC
	Limited Hybrid Limited set of systems/ processes	EMC & Target	EMC	Target	Target	Target	EMC & Target	EMC
	"Leave Alone" Separate existence (new business unit)	EMC & Target	EMC & Target	Target	Target	Target	Target	Target

Source: EMC Internal Documents

Exhibit 11
IT Infrastructure Integration Options in EMC's Acquisitions



Source: EMC Internal Documents

Exhibit 12
The Bidding War between NetApp and EMC for the Acquisition of Data Domain

May 20, 2009	▪ NetApp announces the acquisition of Data Domain for $1.5 billion in cash and stock
June 1, 2009	▪ EMC launches $1.8 billion in cash takeover bid to wrestle Data Domain away from NetApp
June 3, 2009	▪ NetApp increases its offer to $1.9 billion in cash and stock ▪ EMC states that its all-cash tender offer is superior to NetApp's new proposal
June 4, 2009	▪ Data Domain's Board reviews EMC's offer, but reaffirms its recommendation in favor of NetApp
June 15, 2009	▪ Data Domain's Board recommends that stockholders reject EMC's unsolicited tender offer ▪ NetApp welcomes Data Domain's recommendation ▪ EMC reiterates that its tender offer is superior
June 26, 2009	▪ EMC announces an extension of its all-cash tender offer
July 6, 2009	▪ NetApp states: "The NetApp Board of Directors will carefully weigh its options, keeping in mind both its fiduciary duty to its stockholders and its disciplined acquisition strategy."
July 8, 2009	▪ Data Domain agrees to be acquired by EMC and terminates its merger agreement with NetApp ▪ The CEO of EMC states, "This is a compelling acquisition from both a strategic and financial standpoint… I have tremendous respect for Data Domain's people, technology and business, and anticipate great things ahead for our respective companies, our customers and partners." ▪ NetApp declines to revise its bid for Data Domain. CEO of NetApp states: "NetApp applies a disciplined approach to acquisitions, one focused intently on creating long-term value for our stockholders. We therefore cannot justify engaging in an increasingly expensive and dilutive bidding war that would diminish the deal's strategic and financial benefits."
July 20, 2009	▪ EMC acquires majority ownership of Data Domain, and announces that Data Domain will become the foundation of a new product division within EMC's storage business
July 23, 2009	▪ EMC announces the successful completion of its tender offer for all outstanding shares of common stock of Data Domain

Source: NetApp, Data Domain, and EMC press releases

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- Information Sharing
- IT-Enabled Business Innovation
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Jeanne W. Ross, with responsibility for the research process and North American sponsors, is the director of MIT CISR. Peter Weill, chairman of MIT CISR, is focused on globalizing MIT CISR research and delivery and maintaining patron relationships. Drs. Anne Quaadgras, Peter Reynolds, and Stephanie Woerner are full-time MIT CISR research scientists.

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