



White Paper

Converged and Hyperconverged Infrastructure Evolve into Building Blocks for Next-Generation Datacenters

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Dileep Nadimpalli
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Swapnil Bhatnagar

IDC OPINION

With the emergence of new business models and the growing digitalization of various industries, technology is fast becoming the key pillar for organizations to remain competitive, spur innovations, and capture new growth opportunities. Despite increasing IT budgets, the traditional three-tier architecture, with its inbuilt complexities, is proving to be a hindrance to meeting these rising business and market demands. In addition, the pressure to reduce operational costs and improve productivity is also driving technology teams to explore alternative means to cut down complexity and costs through the adoption of agile architectures.

Currently, IT staff spend a significant part of their time in low value-add activities such as provisioning, monitoring, and troubleshooting. For growing businesses in today's environment, this time should ideally be spent on understanding the business needs and working on innovation projects to build the competitive edge. Thus, progressive technology teams are evaluating and looking for new technologies to simplify infrastructure management with the fewest possible integration challenges to free up the IT staff's time for truly value-adding initiatives.

Converged and hyperconverged infrastructure are seriously being considered as possible solutions to the challenges organizations are facing today. These technologies are easy to deploy and manage, integrate with existing infrastructure seamlessly, and also have a lower operational cost than traditional three-tier architecture. For these reasons, converged technologies are gaining traction across verticals.

METHODOLOGY

IDC conducted a survey across 150 large and very large Indian organizations to understand the adoption, benefits, challenges, and buying behavior trends in converged and hyperconverged infrastructure.

SITUATION OVERVIEW

The adoption of converged and hyperconverged infrastructure in India showed a strong growth and is expected to accelerate in the next couple of years. IDC believes this market will grow at a good rate as these systems can help address the following critical challenges:

- Today's datacenters cannot scale easily due to legacy infrastructure and the associated migration challenges. Organizations are fixing these scalability needs by adding resources but this process is getting complex.

- Organizations want a complete open environment, so that they can plug and play the required resources without any integration challenges and be more flexible to organizational needs.
- The traditional three-tier architecture, with its dependence on a shared storage resource (traditional SAN storage), acts as a bottleneck against better performance.
- Organizations are looking for better resource utilization, improved performance, scalability, and reduction in hardware footprint in datacenters.

Typically, organizations that are considering converged/hyperconverged infrastructure opt for a phased approach by starting with a few workloads and then expanding as true benefits are achieved. Several organizations in the survey are already running multiple workloads after desired results were achieved in the initial phases.

In terms of deployment preferences, it is being observed that converged infrastructure is preferred for core applications with very high IOPS and low latency requirements, especially as these appliances are pre-integrated and tested for best possible performance for specific workloads. Hyperconverged infrastructure, on the other hand, is being marginally preferred for perimeter workloads, which are non-core for the business. It is also being used extensively where organizations have high scale-out requirements.

SURVEY RESULTS

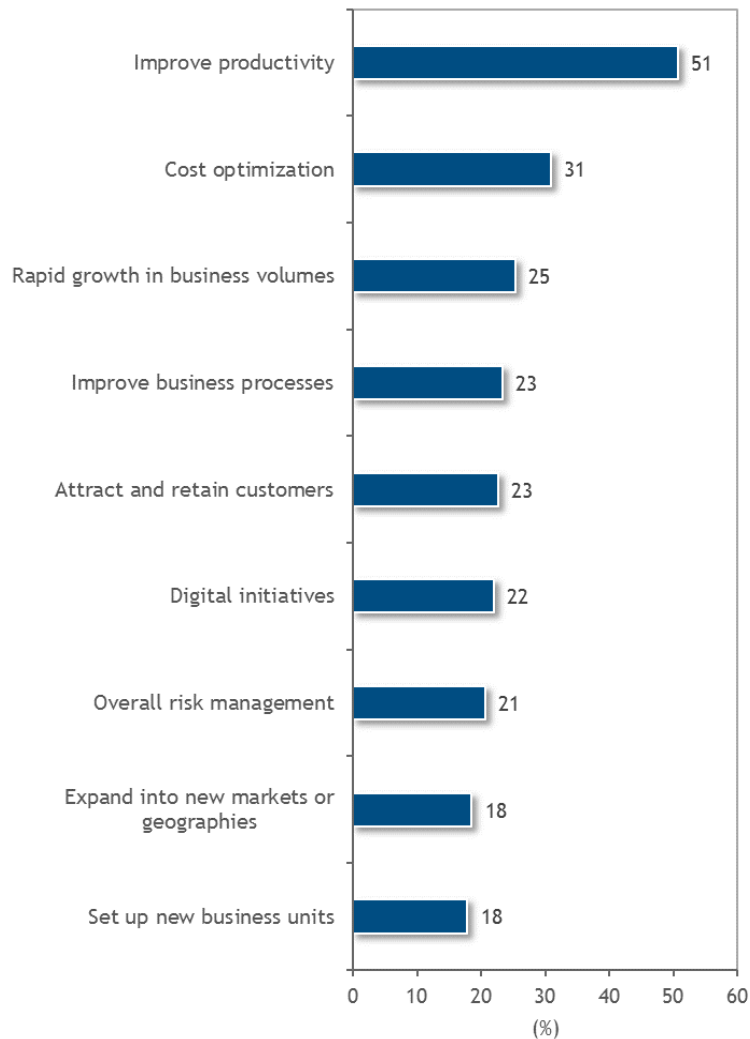
Organizations mentioned improving productivity, cost optimization, and rapid growth in business volumes as the top 3 business priorities. Businesses also showed significant interest in improving business processes, and increasing the customer base and digital initiatives. With the current IT infrastructure, organizations are facing difficulties in achieving their key business priorities and being competitive. Organizations are evaluating different options to revamp the IT infrastructure to address new-age workload demands.

Respondent Quote: *"We use converged infrastructure, and we find that there is greater ease in management and faster provisioning after the deployment."* – Large conglomerate

FIGURE 1

Top 3 Business Priorities

Q. What are the major business priorities for your organization for 2017? Rank the top 3.



Note: n = 146

Source: IDC, 2017

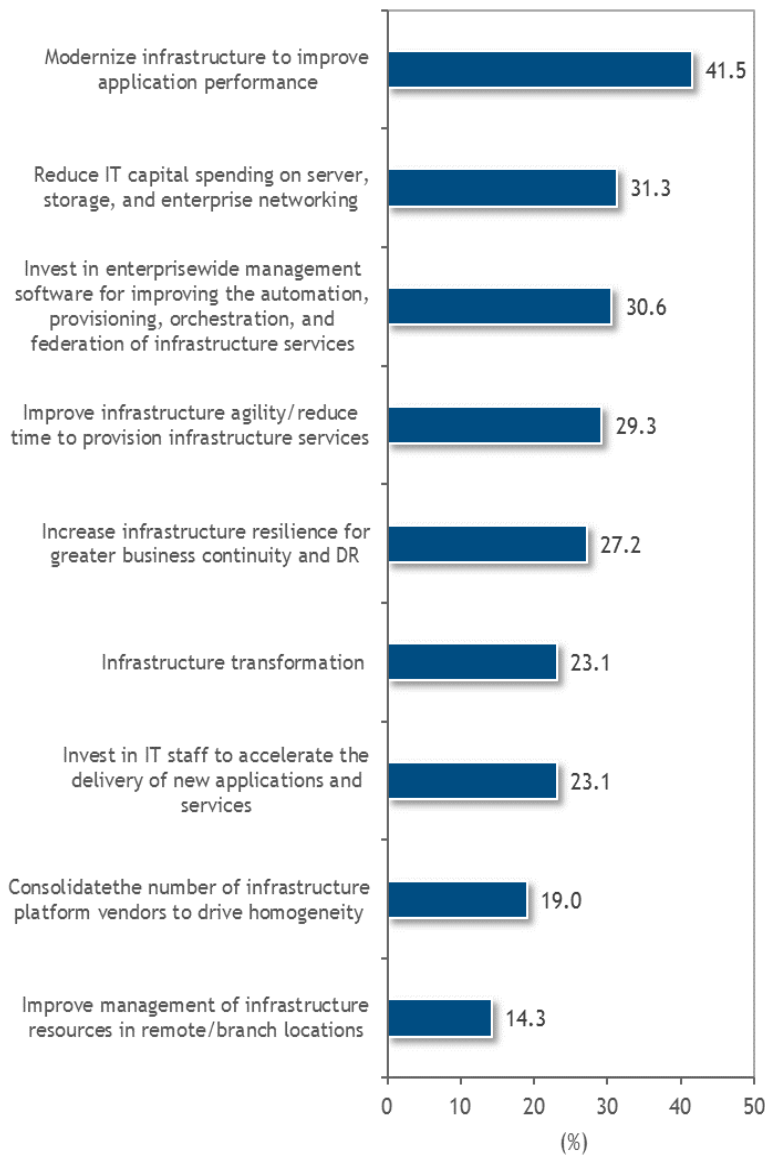
Organizations' top 3 IT priorities for 2017 are in investing in modernizing their infrastructure to improve application performance, reducing capital IT spending on infrastructure, and investing in enterprisewide management software to improve automation. This clearly indicates that organizations would like to evaluate new technologies such as converged and hyperconverged, which can ease the management and improve performance while reducing the infrastructure footprint in datacenters.

Respondent Quote: *"With a hyperconverged solution we can replace any instance without any barriers or downtime. Scalability and Lower TCO are the major benefits we have derived after deployment."* – Major process manufacturing company

FIGURE 2

Top 3 IT Priorities

Q. What are the major IT priorities for your organization for 2017? Rank the top 3.



Note: n = 147

Source: IDC, 2017

Based on the survey results most of the organizations are currently using converged infrastructure for their Enterprise applications (ERP, CRM, etc.). In the next two years, while these workloads will continue, others such as real time analytics are also expected to move to converged infrastructure.

Respondent Quote: *"Converged technologies avoid complexities with a single management layer and help improve IT staff productivity."* – Major discrete manufacturing company

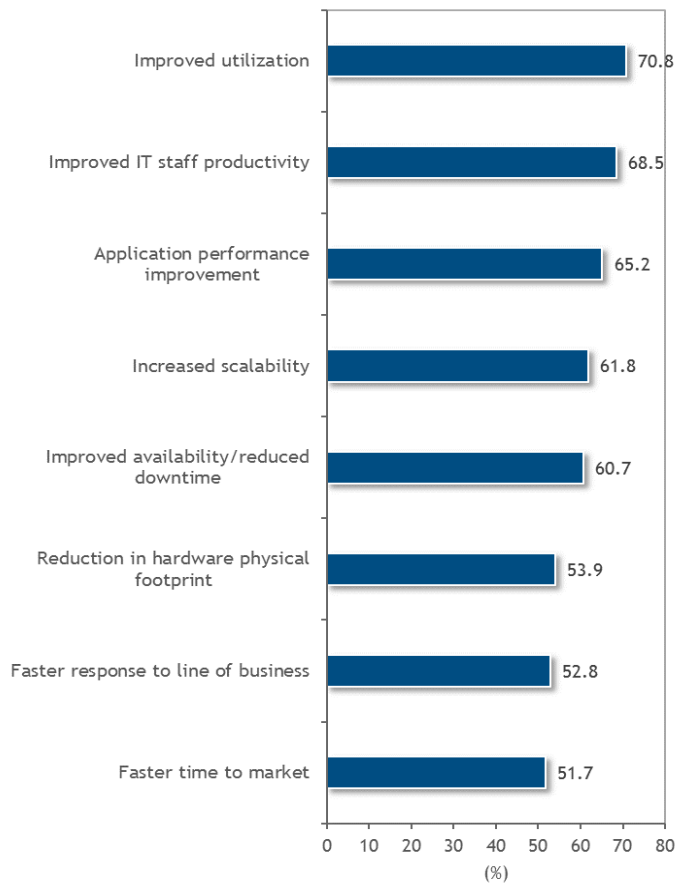
Similarly, while hyperconverged infrastructure is predominantly being used for Web and IT infrastructure and VDI today, organizations are likely to move some core applications such as ERP and analytics.

Organizations that are using converged or hyperconverged infrastructure mentioned that they have clearly seen a huge positive impact on resource utilization, performance, scalability, and reduction in hardware footprint in datacenters. It is interesting to see that most organizations have achieved multiple benefits. Thus, converged/hyperconverged is not just a solution for an individual challenge as it can help address multiple IT challenges that organizations face today.

FIGURE 3

Benefits Achieved with the Deployment of Converged and Hyperconverged Solutions

Q. *What are some of the key benefits that your organization has experienced since deploying converged/hyperconverged systems?*



Note: n = 89

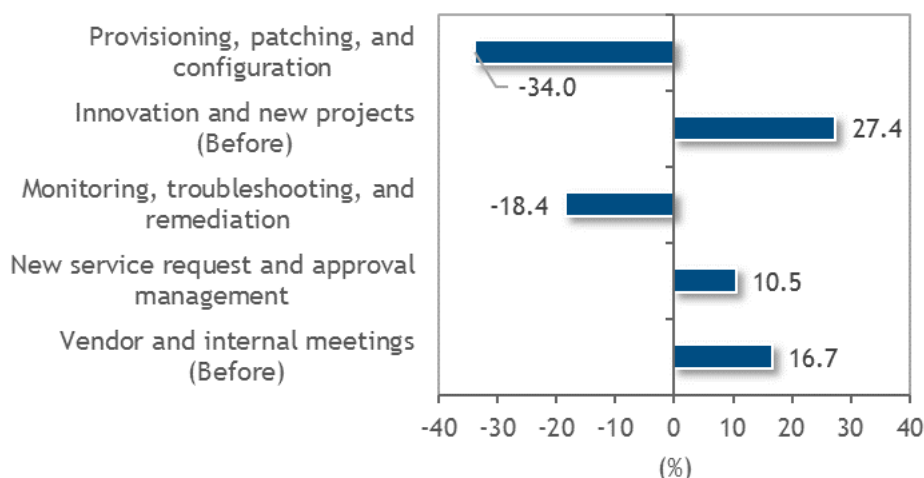
Source: IDC, 2017

Respondent Quote: *"We thought that converged technologies will be good for greenfield projects only, but these technologies integrated well with our existing infrastructure as well."* – Large conglomerate

With the deployment of converged and hyperconverged infrastructure, organizations increased the IT staff's productivity by reducing repetitive jobs such as monitoring and provisioning, and investing that time in innovations, trying new technologies, and collaborating internally to understand the business requirements. Organizations witnessed a positive impact on how the IT staff spends its time after the deployment of converged and hyperconverged infrastructure.

FIGURE 4

Impact on IT Staff Time Post-Deployment of Converged Solutions



Note: n = 87

Source: IDC, 2017

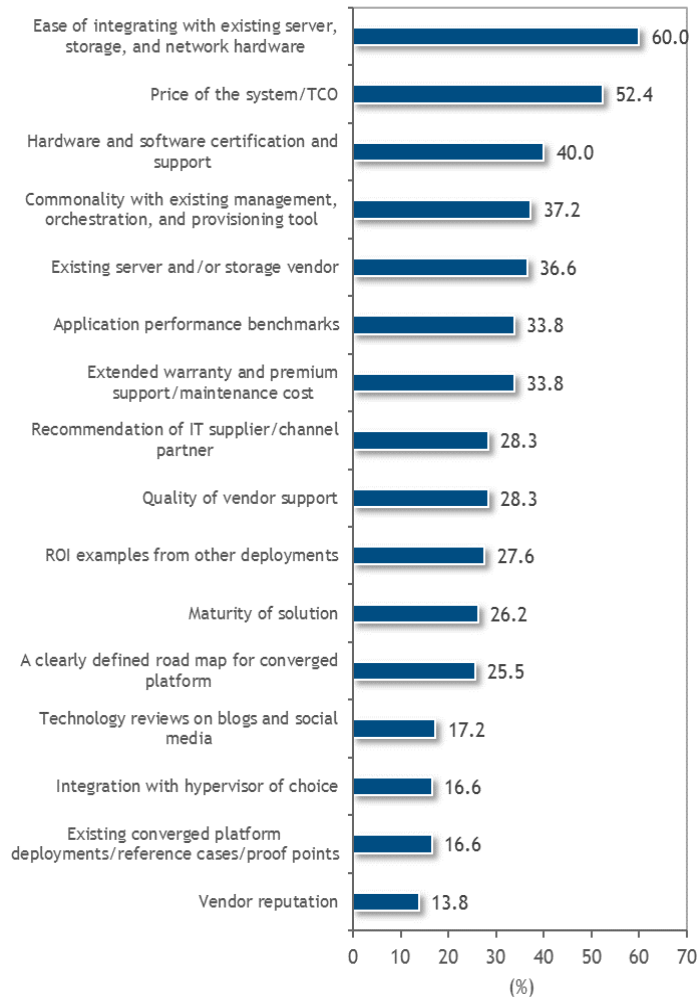
Respondents mentioned that post-deployment of converged/hyperconverged infrastructure, the time spent on provisioning was significantly reduced by 34% and that on monitoring fell by 18%. These organizations were able to invest resources in innovations (27% improvement). This is the best scenario to be in for any organization to derive better business outcomes as technology plays a big role in creating new business opportunities today.

While choosing a vendor for converged and hyperconverged infrastructure, most organizations are comfortable working with their existing hardware vendor. Ease of integration with the existing infrastructure and total cost of ownership (TCO) are the most important attributes organizations consider before finalizing a vendor. Most organizations feel that vendor support services, reputation, maturity of the solution, and integration with hypervisor of choice, among others, are table stakes and shall be provided by all vendors without being asked explicitly.

FIGURE 5

Vendor Selection Criteria

Q. When evaluating the purchase of a converged platform, what are the five most important selection criteria for selecting a specific vendor in your organization?



Note: n = 145

Source: IDC, 2017

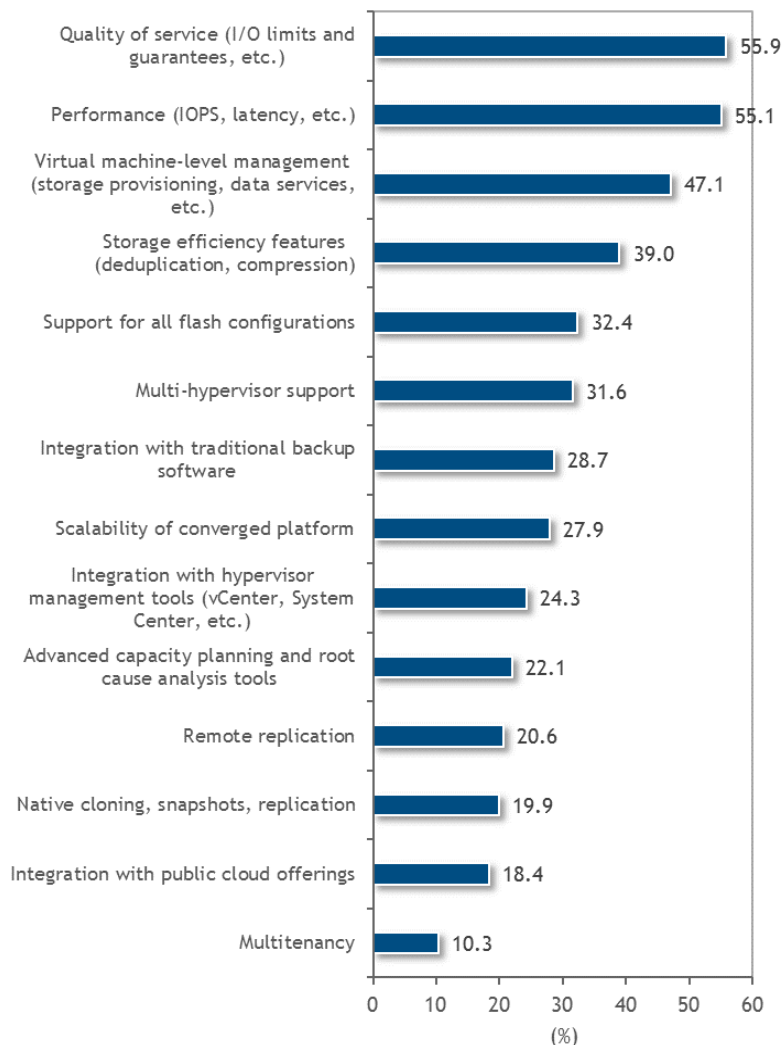
Majority of the organizations have rated performance and quality of service as the most important attributes for a converged and hyperconverged infrastructure. Organizations also worried about the integration of the solution with multiple hypervisors and the ease of retrieving/migrating the data from one hypervisor to the other. Organizations consider storage features such as compression, deduplications, replication, snapshots, and seamless integration with different existing management tools and backup software as a part of the solution for even being in the consideration set.

Respondent Quote: *"We believe converged technologies can improve productivity and reduce cost of IT operations, so we are planning to deploy non-core applications in the next year and core applications in next two to three years."* – IT/ITeS company

FIGURE 6

Solution Selection Criteria

Q. What are the most important features for selecting a specific converged product or solution? Rank the top 5.



Note: n = 145

Source: IDC, 2017

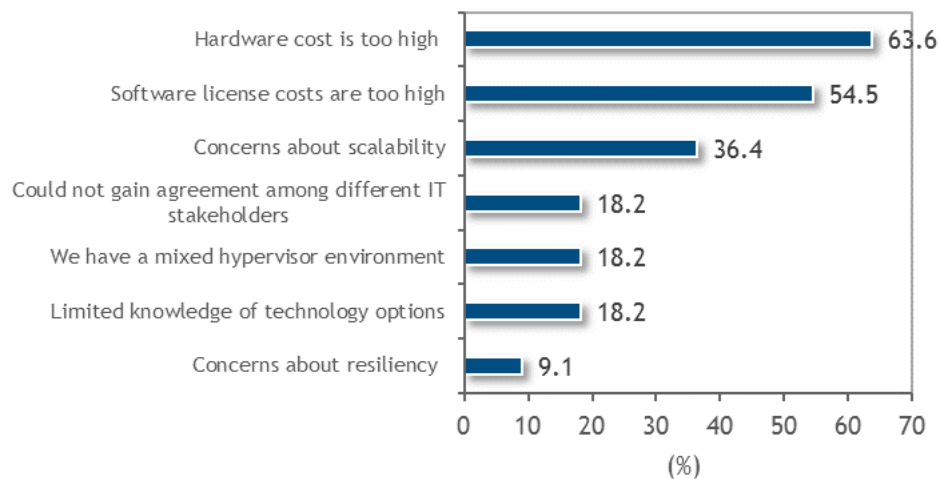
Among organizations that neither use converged technologies nor have any intentions in the future, the key barriers were concerns about higher hardware and software cost and limited scalability. It is the vendors' imperative to educate organizations that although capital expenditure for converged technologies is equal to that of traditional infrastructure, there would be a significant reduction in their operational costs and a multifold improvement in performance. Also, organizations are complaining about scalability as an issue in deploying converged technologies but 50% of the users indicated an improvement in scalability post-deployment of converged technologies. This shows that organizations' perceptions about cost and scalability are a myth that needs to be broken.

Some other perceived challenges include integration challenges with the legacy systems and different refresh cycles for each component in the datacenter. However, these challenges can also be overcome with proper planning.

FIGURE 7

Reasons for Not Deploying Converged Platforms

Q. What are the reasons for not deploying any converged and/or hyperconverged systems in your organization?



Note: n = 33

Source: IDC, 2017

FUTURE OUTLOOK

The converged technologies can address new age workload demands emerging due to advent of third platform technologies such as cloud, mobility, analytics and social. The traditional three-tier architecture, constrained by issues of compatibility, latency, and high maintenance, is increasingly being seen as a hindrance to serving the demands of new-age workloads. End-user organizations are exploring alternatives such as converged and hyperconverged infrastructure along with cloud deployments to meet business demands. Even datacenter and cloud providers are looking to change their architectures, and converged and hyperconverged infrastructure are a part of those conversations.

Cloud is also an option for availing best-in-class technologies at low cost but hyperconverged infrastructure has similar features that can be availed in a much more secure and controlled environment, which some organizations may prefer. Additionally, IDC believes that the total cost of ownership of hyperconverged infrastructure and cloud are on a faster convergent trajectory, primarily due to low operational cost.

Converged and hyperconverged infrastructure are very effective choices for organizations to transform the datacenter infrastructure. Improved resource utilization and staff productivity, and increased application performance due to converged technologies, help organizations achieve their critical business and IT priorities. However, to fully reap the benefits of using converged systems, technology teams should interact with the business to fully understand the potential requirements of the future.

Converged technologies can empower the technology resources of an organization in the pursuit of innovation and new business opportunities rather than just maintaining operations. A well-executed converged technologies–led approach will go a long way in helping organizations achieve their business priorities.

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IDC India (Delhi)

304 Solitaire Plaza
MG Road, Near Guru
Drona Metro Station
Gurgaon 122002
Delhi, India
91.124.476.2300
Twitter: @IDC
idc-community.com
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