Remote Infrastructure Management: The Next Wave of Outsourcing

Transformation

In the pre-cloud era, the rapid evolution in IT architecture and remote server-management technologies, changes in customer behavior and demand pattern, and maturity in the provider and offshore service delivery landscape has propelled the industry toward accelerated adoption of Remote Infrastructure Management (RIM). Emergence of digital, mobile and cloud based solutions has altered the way IT infrastructure is managed, thereby changing the very complexion of RIM strategies.
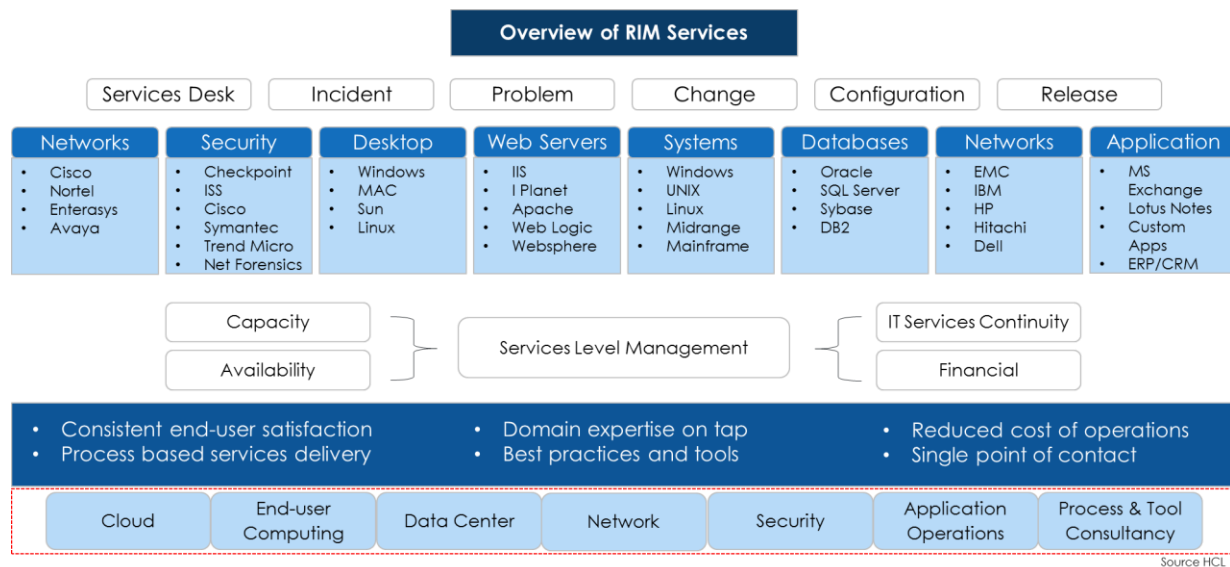
For business leaders across industries, in the early days of IT infrastructure outsourcing, the exercise involved overcoming fear of the unknown and managing a perceived high level of business risk. Towards the end of the first decade of the 21st century, only about 50 percent of IT resources in global organizations were engaged in managing the various elements of IT infrastructure remotely. The perceived higher risks in managing and maintaining enterprise IT environments remotely led to a resistance to sending out the core IT functions to offshore geographies. This mind-set, however, started changing over time and was triggered by the convergence of three independent forces — the rapid evolution in remote server-management technologies and IT architectures, changes in customer behaviors and demand patterns, and growing maturity of the offshore service delivery model. With growing pressure to optimize and manage cost on IT spends, limited resourcing and staffing options and an ever increasing competition, business leaders had to overcome the fear and take the leap of faith to gradually outsource their in-house infrastructure management operations to remote low cost delivery locations. The trickle of infrastructure outsourcing a decade ago has today become a flood, as the sustainable benefits of infrastructure outsourcing has led to the service becoming an over US $500 billion market; a quarter of US IT spends. The continuous efforts by organizations to lower costs and enhance performance levels, technological advancements leading to improved efficiency and service coverage, and most importantly, an accelerated evolution and scale up of offshoring and remote capabilities has led to a rapid growth in the adoption of Remote Infrastructure Management (RIM) services. Decision on RIM is no longer driven by a leap of faith; it has become a logical next step.

What is RIM?

RIM services refer to the remote support and management of infrastructure services of an organization from global delivery sites. These services include the remote system monitoring of:

- Data center

- Networks (WAN and/or LAN)

- E-mail systems

- Desktops/laptops and related peripherals

- ERP system level support (such as SAP basis support)

- Operating system and technical support such as Unix

- Technical support and mainframe technical support

- Database administration

Overview of RIM Services

| Services Desk | Incident | Problem | Change | Configuration | Release |

Networks	Security	Desktop	Web Servers	Systems	Databases	Networks	Application
• Cisco • Nortel • Enterasys • Avaya	• Checkpoint • ISS • Cisco • Symantec • Trend Micro • Net Forensics	• Windows • MAC • Sun • Linux	• IIS • I Planet • Apache • Web Logic • Websphere	• Windows • UNIX • Linux • Midrange • Mainframe	• Oracle • SQL Server • Sybase • DB2	• EMC • IBM • HP • Hitachi • Dell	• MS Exchange • Lotus Notes • Custom Apps • ERP/CRM

Capacity — Availability → Services Level Management ← IT Services Continuity — Financial

- Consistent end-user satisfaction
- Process based services delivery
- Domain expertise on tap
- Best practices and tools
- Reduced cost of operations
- Single point of contact

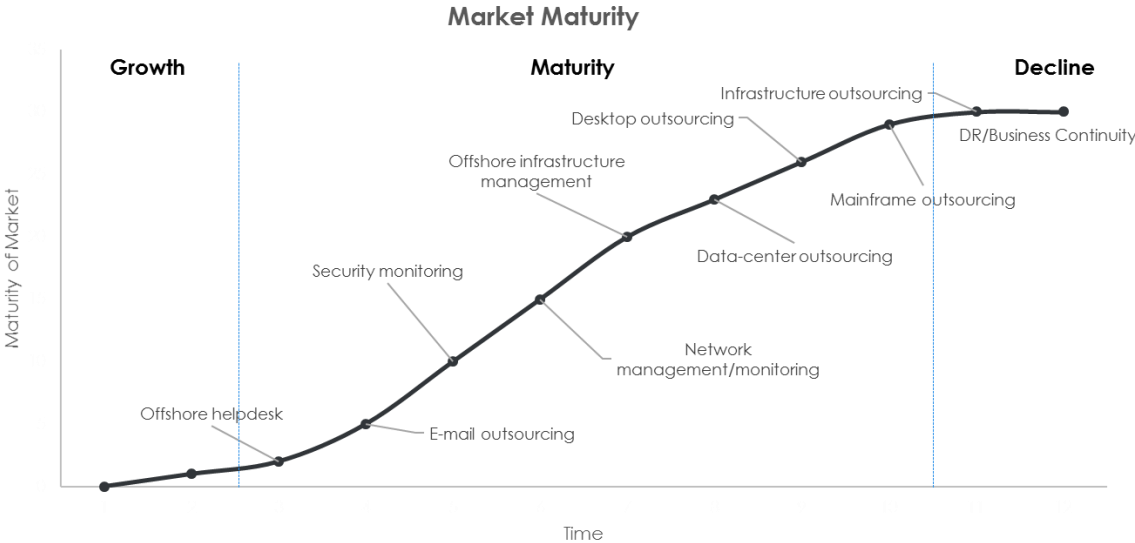| Cloud | End-user Computing | Data Center | Network | Security | Application Operations | Process & Tool Consultancy |

Source HCL

Delivery of RIM services requires deployment of highly skilled professionals with vertical competencies in technology segments and subsystems. Telecom and bandwidth requirements for managing the enterprise environments, data flow needs, redundant network architectures and disaster recovery/business-continuity plan and compliance needs are more complicated as RIM services involve direct access and permissions to core customer network and server infrastructure. These challenging requirements have attracted quality global service providers into the domain with a very well defined set of service offerings.

Outsourcing RIM services to a viable and progressive service provider is a low risk, highly effective solution to an organization's infrastructure operations management needs. This approach enables a drastic reduction in the total cost of ownership whilst providing sustained user satisfaction and operations quality. RIM also reduces the risk of major failures through the use of a global delivery network, improved infrastructure availability and 24x7 proactive monitoring. Meanwhile, best in class governance and contractual

performance targets yield consistent, ever-improving productivity and service delivery. As is evident, RIM adoption is not a cost cutting measure. It enables the realization of long term business goals through IT and business alignment, faster and more flexible IT provisioning, continuous improvement and innovation.

Evolving Market Size and Maturity

Full outsourcing of IT infrastructure has been prevalent since the early days of computing. Companies such as HP and IBM were the leading service providers in the space. Since full outsourcing was mainly single provider based, and has traditionally been a five to 10-year deal, it increased client's dependence on the providers. This, at times, reduced customer's flexibility in planning IT costs based on changing business conditions. Also, this dependence led to a potential risk of occasional lower responsiveness of provider to customer needs, thus enhancing customers' risk exposure. Challenges in 'full outsourcing' resulted in customers adopting 'selective outsourcing'. This involves breaking up the outsourcing of different IT functions such as applications management, network management, e-mail management and so on to 'best of breed' providers best suited for each. This approach allows clients to leverage the specialized skills of the providers and reduce the risk of overdependence on one provider. This shift toward selective outsourcing of infrastructure management also catalyzed the growth of offshore sourcing of RIM. Providers could now offer a bouquet of services, adopting an 'asset-light model,' that did not require upfront large capital investment, thus reducing the cost entry barrier.

Market Maturity

Growth **Maturity** **Decline**

Infrastructure outsourcing
Desktop outsourcing
Offshore infrastructure management
DR/Business Continuity
Mainframe outsourcing
Data-center outsourcing
Security monitoring
Network management/monitoring
Offshore helpdesk
E-mail outsourcing

Maturity of Market

Time

As per recent research reports, full infrastructure outsourcing (includes asset and people transfer) is approaching the decline stage, while elements of selective outsourcing like offshore help desk, e-mail outsourcing, security monitoring and network management/monitoring are positioned at the maturity stage. RIM, as an offering, has also matured along with the maturity of the market. Based on a host of industry estimates, the addressable size of the RIM market could be conservatively pegged at US $125 billion which is comparable to the size of offshore ADM and BPO opportunities. Currently, a substantial portion of this pie is serviced by offshore service providers. RIM service delivery from offshore location is also witnessing a 50% YoY growth. Industry estimates predict that a majority of future growth in this space will stem from the cloud infrastructure management space.

# What's Trending in IT Infrastructure?

The phenomenon of Cloud shift has encompassed the ADM, BPO and Infrastructure management space with IT spending steadily shifting from traditional IT offerings to cloud services. The aggregate amount of cloud shift in 2016 is estimated to reach $111 billion, increasing to $216 billion in 2020. The primary driver for this transition to cloud based offerings in the infrastructure space is the exponential increase of global data center traffic. The amount of global traffic crossing the Internet and IP WAN networks is projected to reach 2.0 ZB per year by 2019 and the amount of annual global data center traffic, which was 3.5 ZB in 2014, is expected to triple to 10.4 ZB per year by 2019; an increase of 25-percent CAGR. Traditional infrastructure management service providers would not be able to keep up with this exponential growth in data traffic without a prohibitive increase in capital investment from buyers.

Legacy Segment	Cloud Segment	Total Market Size in 2016	Total Cloud Shift in 2016	Cloud Shift Rate Through 2020
Business Process Outsourcing	BPaaS	$119 billion	$42 billion	43%
Application Software	SaaS	$144 billion	$36 billion	37%

Application Infrastructure Software	PaaS	$177 billion	$11 billion	10%
System Infrastructure	IaaS	$294 billion	$22 billion	17%

BPaaS = Business Process as a Service; IaaS = Infrastructure as a Service; PaaS = Platform as a Service; SaaS = Software as a Service

With the continued increase in global data center virtualization, cloud workloads are expected to more than triple between 2014 and 2019, whereas traditional data center workloads are expected to see a global decline, for the first time, at a negative 1-percent CAGR from 2014 to 2019.
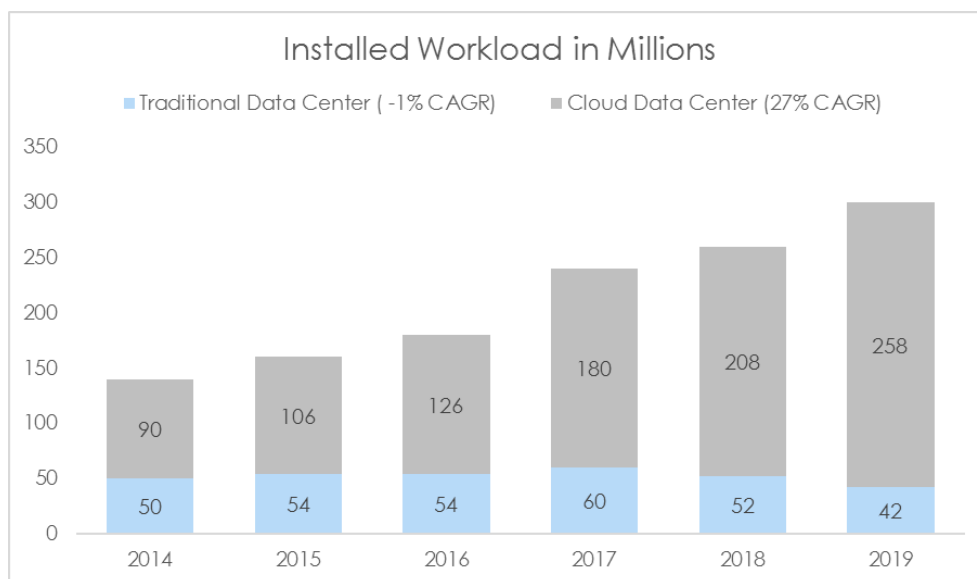
With the convergence in quality of tools and solutions offered by on premise and cloud based services, buyers are increasingly looking at the cost factor; a battle where cloud always has an edge. With increasingly complex and dynamic service interactions and transactions, buyers must include factors such as scalability, speed of deployment and flexibility in their purchasing decisions. Cloud based RIM solutions would be able to provide the requisite flexibility, scalability and agility with regards to both costs and service quality, and hence would render the traditional legacy offerings obsolete.
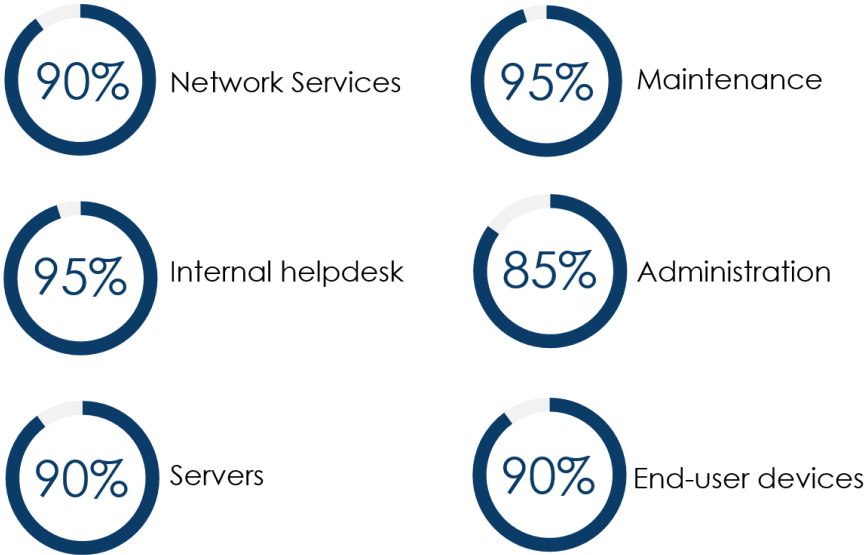
Service Provider Dynamics

Traditionally, MNC organizations such as Accenture, IBM, Unisys and HP have been the main players in the market for infrastructure outsourcing. They have had a full range of services, and were able to undertake full outsourcing by taking over the assets of the customer and engaging them in a long-term contract. However, over the last decade, offshore providers have successfully competed with the legacy providers. In order to quickly ramp up and offer a full set of services to the market, some of the larger offshore service providers have shown a greater openness towards asset acquisition than in the past and have aggressively welcomed the adoption of cloud based, digital and mobile offerings and solutions.

In RIM, the scale of operations drives profitability to a large extent. Consolidation in the industry is creating mega organizations with the capability of providing customers end-to-end services across all time zones. In addition to the M&A growth, providers such as HCL, Wipro, and Tech Mahindra are moving past the wage-arbitrage play and focusing on value generation through better infrastructure management, differentiated offerings and deep domain knowledge.

The provider ecosystem has also innovated and has been able to expand the scope of offshore-ability of most infrastructure components. The following figure represents the approximate percentages of specific infrastructure components that can be managed remotely.

What can be sent to offshore

90% Network Services   95% Maintenance

95% Internal helpdesk   85% Administration

90% Servers   90% End-user devices

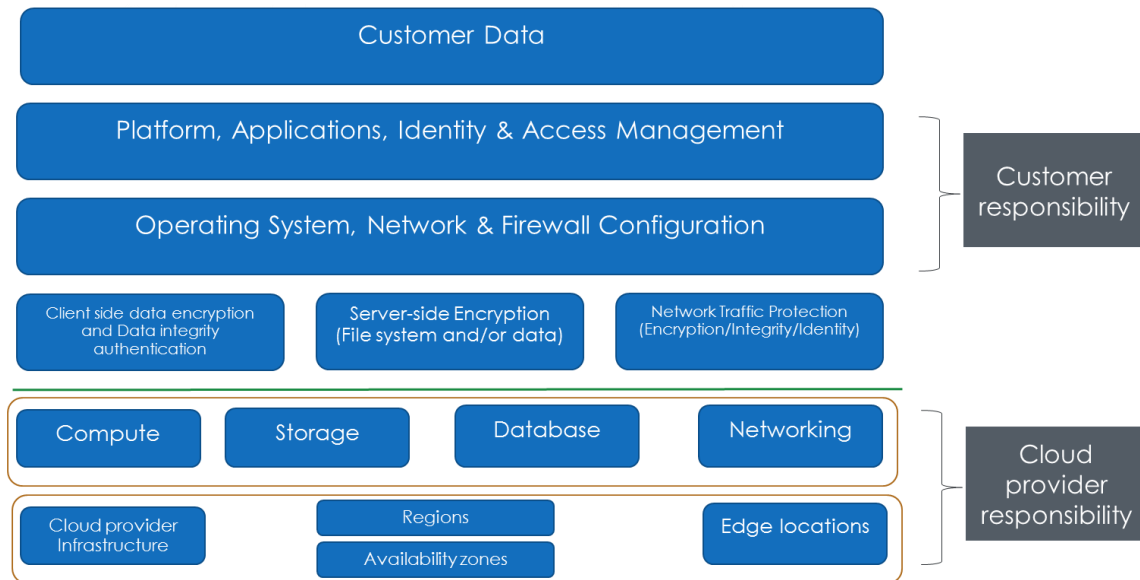| Operations function	Offshore-ability	Comments
Facilities management	Low	Clearly the majority of the tasks associated with datacenter administration require a local presence and the India market is not yet mature enough
Production support	High	Production support is a critical function (Job scheduling, JCL support, file management etc.,) requiring good knowledge of technology platform and applications. Tier-1 vendors have a demonstrated track record of mature processes to deliver predictable outcomes
Server and storage admin	High	Remote server and storage administration have standardized processes and are delivered from offshore excepting in circumstance where it requires any physical access to the facility
Technical support	High	Well suited for remote support due to mature processes and availability of skilled workforce
Performance monitoring and capacity planning	High	Well suited for remote support since planning can be done remotely and is not necessarily real time
Database administration	High	Well suited for remote support due to mature processes and availability of skilled workforce
Network operations	High	Well suited for remote support due to mature processes and availability of skilled workforce

Helpdesk	High	Well suited for remote support due to mature processes and availability of skilled workforce

Through RIM services, HCL manages over 5% of the world's managed devices with more than 40% of customers from incumbent multinationals and the mission-critical IT environments of over 20 Fortune 100 leading global telecommunication companies. Wipro's cloud based RIM offering guarantees 75% improvement in space utilization, 25% Capex reduction, 50% power saving and 100% predictable scalability cost. Tech Mahindra has built a team of 11,500 associates in 36 countries, an ecosystem of strong alliances and a delivery & data center footprint across continents, to provide true 24x7 service to over 190 customers across industries such as Telecom, Banking, Manufacturing, Insurance, Retail and Healthcare. Indian service providers continue to be the leading contenders in the space as the growth rate for India-based service providers is over 50% compared to 10-12% for non-India based providers. Other service providers from the Philippines, China, Brazil and Eastern Europe are trying to replicate India's success.

The Role of RIM in the Future of Outsourcing

Keeping a hawkish eye on day-to-day operations has been the hallmark of every successful business. Keeping a handle on a complex and convoluted IT infrastructure environment spanning multiple continents while facing periodic challenges related to network downtimes, security threats and breaches, burgeoning volumes of unorganized data and unforeseen disasters would be a herculean task without the right mix of technology and expertise. RIM solutions enable organizations to pro-actively monitor their environments, provide intelligence for better and faster decision making and an overall improvement in cost and quality factors.

Shared Responsibility Model: The realm of RIM services is changing for buyers as IT service providers and cloud service providers are sharing the infrastructure responsibility. End to end SLA management ensures that the buyer is only dealing with one entity while the efficiency and quality of service improves as providers with different core competencies are delivering different components of the service.

Customer Data	
Platform, Applications, Identity & Access Management	
Operating System, Network & Firewall Configuration	Customer responsibility

Client side data encryption and Data integrity authentication	Server-side Encryption (File system and/or data)	Network Traffic Protection (Encryption/Integrity/Identity)

Compute	Storage	Database	Networking	
Cloud provider Infrastructure	Regions / Availability zones		Edge locations	Cloud provider responsibility

Ubiquitous Connectivity of Devices: Through managed security services, buyers can extend their geographic reach, spike efficiency and ameliorate service levels by connecting to any device from any location with the help of a web browser. Even over higher latency networks, the systems can be hosted and accessed instantly for managing the infrastructure with exceptional reliability.

Advanced Analytics and Reporting: Remote infrastructure management tools facilitate early error detection, generate periodic alarm summary reports, monitor user activity, provide information on users' downloaded and viewed content and report the real-time evaluation of security incidents or breakdown. These are easily accessible cloud based tools that offer real-time and historical insight into the health, security and performance of the network.

Higher Security: As the organization's IT landscape goes more and more global, the fears of security are bound to increase. Through multiple encryptions and protections, RIM fulfils the high security requirements for data storage and transmission. Specialized security experts can properly deploy, manage, upgrade and patch firewalls and block malicious flow to keep the infrastructure protected around the clock.

No more licensing: All the top service providers in the infrastructure space provide cloud based RIM solutions that are efficient, scalable and flexible, and allow the buyer to pay only for what they use at the required time rather than investing in licenses

that are hardly used. With remote monitoring services, organizations would be better able to plan and control their IT spends.

Increase in Uptimes: Remote infrastructure management providers have invested significantly in the development of skill competencies and best-in-class technologies and tools that ensure that the network devices and data centers remain in optimum health and that downtimes are avoided. To paraphrase a popular saying, "the show will always go on".

In the digitally enabled, mobile savvy and globally connected world that we inhabit, the short and long term possibilities for Remote Infrastructure Management are immense. It allows large organizations to focus on core competencies while letting the experts manage their infrastructure for significantly reduced TCOs. Apart from the obvious economic benefits, RIM and related innovations also enable MNCs to setup low cost centers in developing economies leading to employment generation and overall improvement to socio-economic parameters. It is a win-win situation and it is here to stay.

Authors

Pradeep Mukherji

President and Managing Partner, Avasant

Email: pk.mukherji@avasant.com

Rakesh Patro

Managing Consultant, Avasant

Email: rakesh.patro @avasant.com

About Avasant

With its headquarters in Los Angeles, California, Avasant is a leading management consulting firm providing digital transformation, sourcing advisory and governance services to Fortune 1000 clients around the globe. Our talented team of consultants, technologists and lawyers average over 20 years of industry-honed experience and have conducted 1,000+ engagements in over 40 countries worldwide. The combination of world-class resources and cross-industry experience enables Avasant to yield superior business outcomes for its global clients across four primary domains: Digital, Business & IT Transformation, Strategic Sourcing, and Globalization Advisory.