

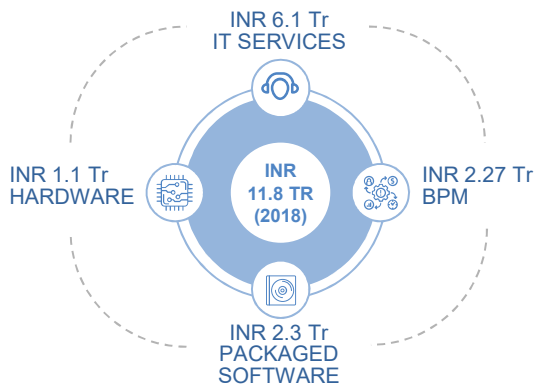
IT-ITeS Industry

Data Center and Cloud Battle Card



Industry Overview

As the **largest and fastest-growing** cloud services market in the **APAC region, India** is second only to China



The **public cloud services** market in India is expected to reach **INR 284 Bn by 2020**, from **INR 127.8 Bn in 2017**

Hybrid cloud solutions will continue to **drive** overall cloud adoption (Gartner)

The **cloud computing** market is expected to grow to **INR 284 Bn by 2020**, from **INR 156.2 Bn in 2018**

The highest growth will continue to be driven by IaaS, followed by PaaS and SaaS, respectively

Indian IT-ITES players spent **around INR 198 Bn*** on Cloud and Data Center (DC) Services in 2018

* Ballpark estimation based on primary inputs

1 Mn cloud computing jobs are expected to be created in India by **2022**

Industry Drivers

There are significant opportunities for Indian IT-ITeS firms in cloud due to growing **investment by businesses** in **colocation / data centers**, **adoption of cloud** by **SMBs**, and the new **data protection bill**, which will compel companies to store data within India



Digital India

As part of the Digital India campaign, the government is injecting **INR 1.42 Tr** to improve internet infrastructure as well as facilitate **online payment systems** and **e-governance**

Digital data in India is projected to increase to **2.3 Mn petabytes** by 2020



Data Protection Bill 2018 (draft)

This bill is designed to compel companies to **store copies of users' critical personal data** within India

However, the bill does not explicitly define 'critical data'



Growing Co-location / Data Center business

India's **data center** market reached an estimated **INR 319.5 Bn** in 2018, driven by regulated industries, such as **BFSI and healthcare**

Global cloud players such, as **Alibaba and Amazon**, are opening data centers in India



Adoption of Cloud-based Contact Center

India's **contact center applications** market is projected to register a CAGR of **3.3%** in 2016–2023

The global **cloud-based contact center** market is expected to grow to **INR 1.48 Tr by 2022**, from **INR 482.8 Bn** in 2017



Growing Cloud Adoption by SMBs and Start-ups

Start-ups are adopting **cloud** as a platform for **innovation, cost flexibility, and scalability**

Flexible cloud solutions can improve **cash flow** by up to **308%**

Shift from low to medium cloud usage will improve **productivity by 1.5x** (Microsoft 2018)



Emerging Technologies

Modernization of IT infrastructure will be the biggest driver of IT budget increases in 2019. Financial services organizations are the earliest adopters of emerging technologies, such as AI, cloud, and IoT

Budgets Shift from 2018 to 2019 (Global)

89%

Companies expect their **IT budgets** to either **grow or stay the same** over the next 12 months

82%

Government organizations are expanding their IT budgets due to **outdated IT infrastructure**

21%

Hosted / cloud-based services to account for **21%** of the total IT budget in 2019

15%

Online backup / recovery (15%) accounts for the **largest share** of hosted / cloud-based services, followed by **email hosting** (11%), **online productivity** (9%) and **web hosting** (9%)

Adoption of Technology Trends

Block-chain



The percentage of **large enterprises (>5,000 employees)** using blockchain technology will increase to **50% by 2020**, from **25% in 2018**

IoT Devices



Adoption of IoT devices will grow to **48% by 2020**, from **27% in 2018**

Hyper-converged Infrastructure



By **2020, ~40% of organizations** will use hyper-converged infrastructure

Container Technology



Adoption of container technology in large enterprises (>5,000 employees) will **grow to 73% by 2020**, from **39% in 2018**

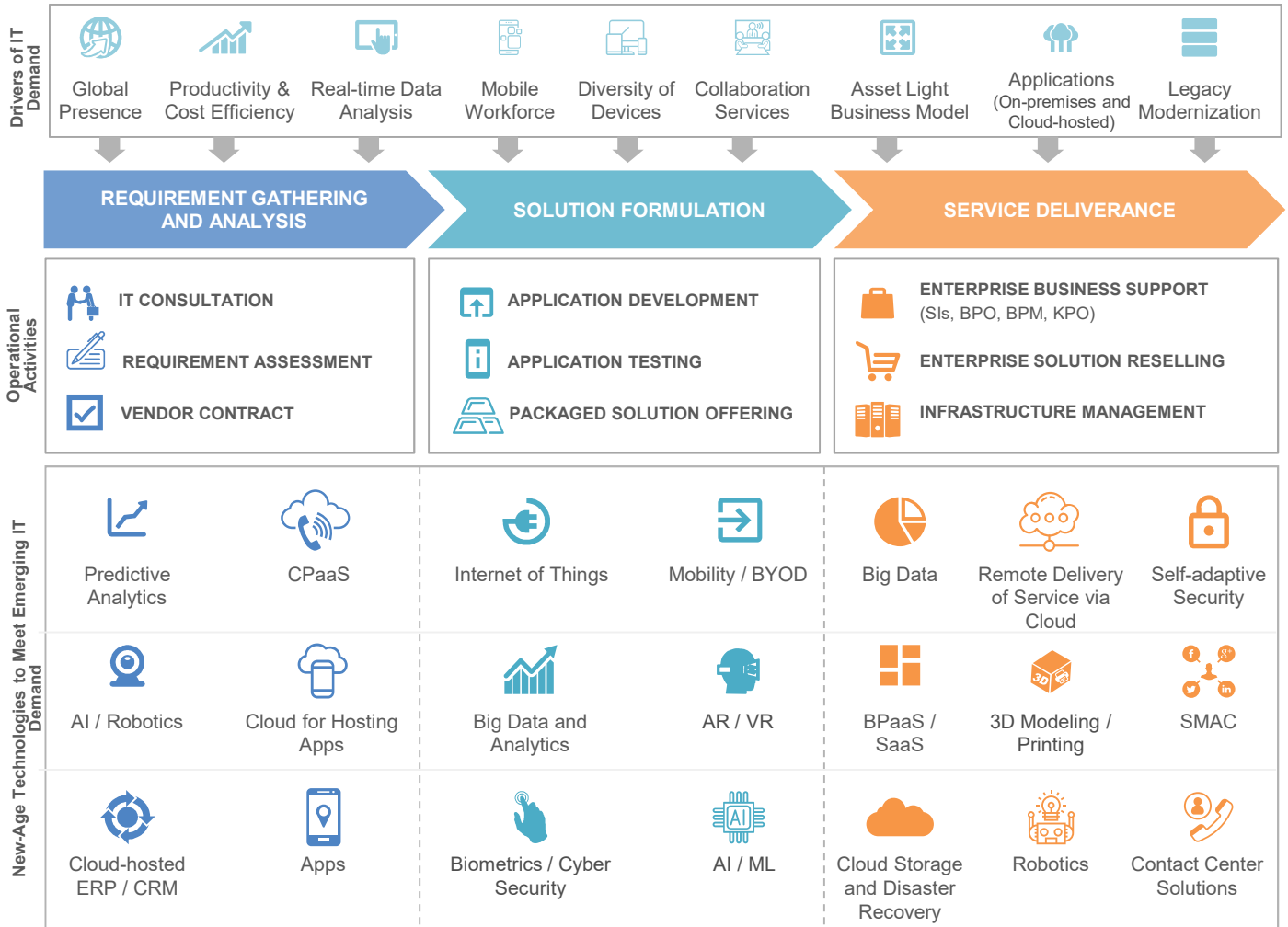
Source: Spiceworks State of IT 2019; Sample: 700 business technology buyers

IT-ITeS – DC and Cloud Battle Card



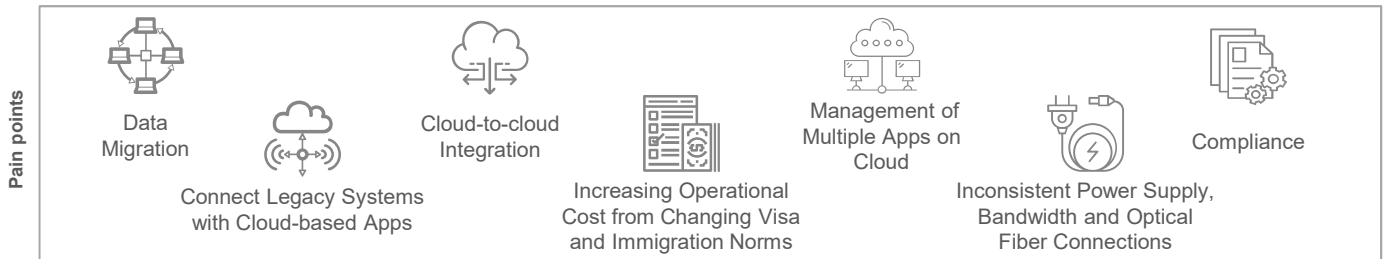
Enabling Technologies for IT Services

Emerging demand for IT services across industries is altering the way IT-ITeS companies collaborate with their customers to **gather information, offer solutions, and deliver services**. New-age technologies, such as **cloud, mobility, BYOD, 3D, Big Data analytics, and AI** are key enablers for new IT demand



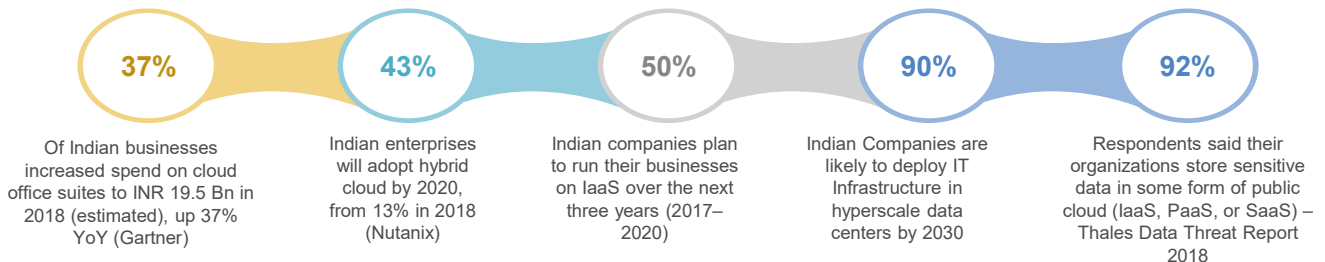
Pain Points

Changing regulations and multi-vendor ecosystems are creating new challenges related to **data integration** and **migration**, leading to a rise in operational cost and impact on margins of IT-ITeS firms



Increasing Cloud Adoption

With a **transition of CIOs' role** from delivery executive to **business executive**, and controlling cost and engineering processes to **driving revenue and exploiting data**, they are **adopting cloud technologies** to focus on **operational excellence and tracking the business value of IT**



IT-ITeS – DC and Cloud Battle Card



Conversation Triggers

As **innovation** and **agility** have become **essential competitive ingredients** across industries, companies are looking to leverage **cloud platforms to accelerate digital transformation and boost agility**







Impact on Demand

● High

◐ Medium

○ Low

Infrastructure Enablers

Technology / Trend	Conversation Triggers	Data Protection	Cloud Services	Transformation	DC Colo	Migration
 Public Cloud	<ul style="list-style-type: none"> Revenues from SaaS, the largest segment of the public cloud market in India, grew to an estimated INR 66.1 Bn in 2018, from INR 48.5 Bn in 2017 Spending on IaaS, the fastest-growing segment of the public cloud market, increased by an estimated 46% to INR 71 Bn in 2018 To support Digital India initiatives and sell cloud services to the Government of India, Tata Communications is working with MeitY to get its cloud services accredited under Standardization Testing and Quality Certification (STQC) 	●	●	◐	◐	◐
 Optical Fiber	<ul style="list-style-type: none"> Enterprises are investing in optical technologies to integrate hyperscale data centers with high-speed networks The optical fiber cable market in India is expected to surpass INR 30 Bn by 2020 Airtel acquired the Indian leg of Gulf Bridge International's India-Middle East-Europe submarine cable, along with significant capacity on the Middle East-Europe leg 	◐	○	○	◐	●
 SMAC	<ul style="list-style-type: none"> Companies are investing 4.5x more in cloud infrastructure than in traditional IT; cloud is expected to grow even faster by 2020 The analytics, data science and Big Data industry in India is expected to grow 7x in 2018–2025 (2018) Tata Comm. will spend INR 1.4–1.7 Bn on its cloud business in 2018–2019 	◐	●	◐	○	○
 DC & External Storage	<ul style="list-style-type: none"> The data center market in India reached INR 319.5 Bn in 2018, driven by modernization of the BFSI sector and by government initiatives India's external storage market grew 23.1% YoY in Q3 2018 CtrlS plans to invest INR 12 Bn in the next three years to upgrade the infrastructure of five data centers (Feb 2018) 	●	◐	○	●	◐
 Colocation and Managed Hosting	<ul style="list-style-type: none"> The colocation and managed hosting market in India is projected to grow to INR 142 Bn by 2019, from INR 92.3 Bn in 2016 (451 Research) Increasing demand for packaged IT services is forcing hosting providers to offer management services, such as database management, digital business transformation, and consultancy and cloud readiness assessment 	◐	●	◐	●	○
 Hybrid cloud	<ul style="list-style-type: none"> Hybrid cloud adoption in India will increase to 43% in 2020, from 13% in 2018 Gartner predicts that by 2020, 90% of organizations will adopt hybrid infrastructure management capabilities Organizations are adopting hybrid infrastructure to optimize costs and increase efficiency. However, hybrid infrastructure increases the complexity of selecting the right toolset to deliver end-to-end services in a multi-sourced environment 	●	●	○	○	◐

Service Comparison: Sify Vs. Competitors

Data Center Infrastructure

	Sify	Netmagic	CtrlS	Airtel	ST Telemedia	RCom
No. of DCs	9	11	6	10 (Nextra Data)	16	9
Uptime	100% since last 10 years	99.990%	99.995%	99.982%	99.990%	-
Experience	18+ Years	~20 Years	~10 Years	12+ Years	~15 Years	~17 Years
Certifications	ISO9001, ISO27001, ISO20000, PCI, HIPPA, TIA942, PCI DSS	ISO27001, ISO9001, ISO20000, TIA942	ISO20000-1, ISO 27001, ISO 22301 (Mumbai DC is LEED certified)	ISO 22301 / 27001 / 20000-1	ISO 27001 / 20000 / 14000, TIA 942	ISO 9001 / 20001 / 27001 / 50001 / ISO 18001

Areas of Offense

Areas of Defense



- STT GDC India does not have managed hosting or cloud services, but partners with Tata Communications to offer managed hosting and cloud to end clients.
- Netmagic's Noida and Chennai data centers operate on leased premises, which make customers vulnerable to security threats
- RCom's Bengaluru data center (in Peenya) has been facing accessibility and theft related problems
- Sify operates a national MPLS network, connecting 47 data centers, including third-party data centers. Through its interconnections with global carriers, Sify can also support Indian MNCs with international hosting and cloud requirements



- ST Telemedia and Airtel have more data centers than Sify Technologies. Further, Airtel is planning to build 10 data centers across India
- CtrlS claims that together, its three datacenters, support power capacity of 58 MW. The company is planning to launch two new DCs in Hyderabad (100 MW facility) and another two in Mumbai (60 MW facility).
- Netmagic leverages its parent company NTT Communications' improved managed and professional services capabilities to win complex projects
- CtrlS' data centers have been rated by 4 by ANSI/TIA-942

Cloud Portfolio Comparison

	Sify	TATA Comm.	Netmagic
Cloud Services Suite	<ul style="list-style-type: none"> • Goinfinit AWS (Public Cloud) • Cloudinfinit ✓ Enterprise Cloud ✓ VPE (Virtual Private Enterprise) 	<ul style="list-style-type: none"> • IZO Private Cloud (Enterprise Cloud) • Managed Services for Azure and AWS • Cloud Containers, Storage, and Analytics under 'As a Service' Model 	<ul style="list-style-type: none"> • Simplificloud (Public Cloud) • Private Cloud (Dedicated Private Cloud, Virtual Private Cloud, Integrated Hybrid Cloud Env.) • Migration as a Service, Managed Storage, Backup as a Service
Compute Environment	<ul style="list-style-type: none"> • Minimum Capacity of 48 vCPUs and 265 GB of vRAM Per Node • Offers a choice between HyperV and VMware hypervisors • BYOL policy for OS and DB (Windows Server, SQL Server, Red Hat, Oracle) 	<ul style="list-style-type: none"> • Hypervisor Support for KVM, VMWare ESXi, and HyperV • OS Support – Windows, Ubuntu, and RHEL • Database – MySQL and MongoDB 	<ul style="list-style-type: none"> • Hypervisor Support for VMware and HyperV • OS Support – Windows, RHEL, Ubuntu, SUSE, Debian • Database – MySQL, Oracle
Storage	Freedom of Choice between Three Tiers <ul style="list-style-type: none"> ✓ High-performance Tier ✓ Standard Tier ✓ Economy Tier Storage Type: NAS, Object, and All flash	<ul style="list-style-type: none"> • NetApp, EMC, and Cloudbyte Powered Storage services 	<i>Info unavailable</i>
Uptime (at infra level)	<ul style="list-style-type: none"> • 99.50% per VPE • 99.90% for VPE – HA • 99.95% VPE – HA + DR 	<i>Doesn't explicitly mention uptime commitment. Claims to offer enterprise-level SLAs</i>	<i>Doesn't explicitly mention uptime commitment. Claims to offer strong SLAs</i>
Connectivity	<ul style="list-style-type: none"> • IP Sec – VPN • SSL VPN Connectivity • Upto 100 Mbps Throughput • Global Cloud Connect (Cloud Connect Service) 	Connectivity through <ul style="list-style-type: none"> • Public Networks (Public IP) • Private Networks (IP Sec Tunnel, MPLS, GDE) • IZO Private and Public Connect (Cloud Connect Service) 	<i>Relies on NTT Communications to provide connectivity</i>

Cloud Portfolio Comparison

	Sify	TATA Comm.	Netmagic
Security	<ul style="list-style-type: none"> Integrated Security Services vFirewall IPS Protection Network DDoS Fortnox SIEM vUTM 	<ul style="list-style-type: none"> SIEM, ATP Cloud WAF, UTM, DDoS (Arbor), IDP, Firewall Audit & Optimization IDaaS, CASB, 2FA GRC Consulting, Vulnerability Assessment 	<ul style="list-style-type: none"> Detection and Mitigation of Targeted Attacks on Critical Applications Application Layer Detection and Mitigation (Powered by Arbor Networks) IPS / IDS SIEM
Reporting and Analytics	<ul style="list-style-type: none"> Dashboards, Online Reports, Alerts, Watermarks, and Help Desk Analytics for Infrastructure, Platform, and Applications 	<ul style="list-style-type: none"> Customized Reporting and Dashboards 	<ul style="list-style-type: none"> Customer Portal that Enables Configuration and Management of Cloud Environment
Backup and Recover	<ul style="list-style-type: none"> Cloudinfint Backup (Of Data to be Protected) DR on Geographically Distant Cloud Site 	<ul style="list-style-type: none"> Secure Cloud Backup Service 	<ul style="list-style-type: none"> Backup and Disaster Recovery Options
Managed Services	<ul style="list-style-type: none"> Integrated Managed IT Services (Single Partner Managing Cloud, Infrastructure, and Environment) 	<ul style="list-style-type: none"> Integrated Managed Services 	<ul style="list-style-type: none"> End-to-end Managed Services

Areas of Offense



- CtrlS has **limited experience in supporting third-party cloud services**, such as AWS and Microsoft Azure
- ST Telemedia and CtrlS **don't have their own network backbone**, and largely depend on partners for connectivity services; Sify has strong network presence in India
- Tata Communications has **discontinued its public cloud service (Instacompute)**, as it was not able to compete with hyperscale cloud providers

Areas of Defense

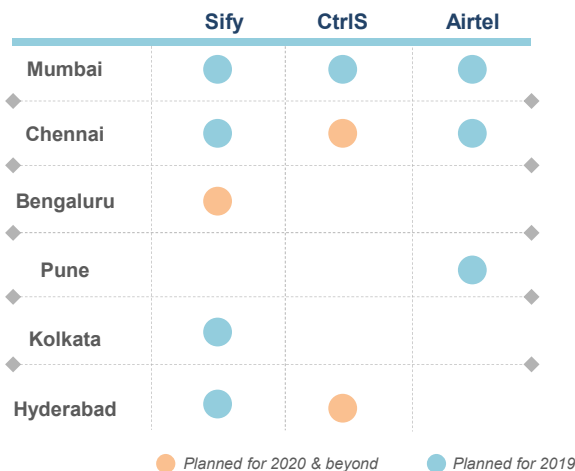


- Netmagic, after its integration with NTT Communications, **provides a comprehensive range of managed services and connectivity to major cloud service providers**
- Companies such as CtrlS, Netmagic, and Airtel **claim to offer uptime of 99.99% for their cloud services**
- Airtel is one of the **empaneled partners for India's central government and several state governments' cloud-based projects**; it poses serious competition to Sify, when it comes to government deals
- Reliance Jio is likely to **adopt an aggressive pricing approach**, similar to the one it adopted for its consumer services, for its enterprise IT / cloud services

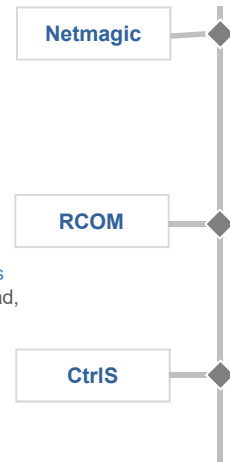
(Source : Primary Interview)

Competitors' Strategic Focus Areas

Sify, CtrlS, and Airtel have announced plans to build new data centers in India. Netmagic, RCom, and other companies opened new facilities in 2018



- Netmagic opened new data centers, **one each in Mumbai and Bengaluru, in late 2018**
- Its Bengaluru data center spans across 250,000 sq. ft., while the Mumbai site spans across 300,000 sq. ft. The company plans to add 150 personnel to its current workforce of 1,270, as it looks to grow further
- RCom **opened a hyperscale data center in Mumbai in mid-2018**
- The company also **plans to build connected data centers in key hubs across India, including Bengaluru, Hyderabad, and Chennai**
- CtrlS is **investing ~INR 2 Bn on infrastructure expansion**, to target the BFSI sector
- The company is **setting up Tier 4 facilities in Hyderabad (~100 MW), Mumbai (60MW), and Chennai**; these will take its data center footprint to 5 million sq. ft. by 2020



Digitization and government initiatives are compelling data center service providers to **invest heavily in building new data centers**

Focus on Cloud Services

Increasing demand in India has led companies, such as Netmagic and CtrlS, to amplify their focus on cloud services

- Netmagic is [planning to target customers who are looking to adopt a multi-cloud environment](#). It plans to offer a one-stop solution for data migration to private, public, and third-party cloud services such as AWS, Google, and Microsoft
- CtrlS is also [investing heavily \(~INR 2 Bn\) in infrastructure](#) to tap the growing cloud market in India

Rise of Reliance Jio

After disrupting the consumer telecom space, [Reliance Jio is planning to step into the enterprise service segment](#), specially cloud, IoT, and network services

- Reliance Jio has [started testing its public and private cloud](#) within Reliance group companies
- It plans to develop a state-of-the-art green field data center in an upcoming 100-acre IT hub in Kolkata, West Bengal

Airtel Bets BIG on Datacenters

Bharti Airtel is preparing to play a bigger role in the enterprise segment through a new cloud and data center strategy, under which it will undertake the following

- Airtel's wholly-owned data center unit, Nextra Data Ltd, [is planning to set up 10 new data centers](#), including four in Pune, Chennai, Mumbai, and Kolkata
- The company's new data centers are being planned to tap the cloud opportunities that have [emerged following the Indian government's regulation on data localization](#)

Sify Technologies' Key USPs for Data Center Services

Build your own SLA

Sify's Golnifinit VPE allows customers to build their IT infrastructure with single or multiple nodes across one cloud site or distant cloud sites. This enables customers to build their private cloud for test / development with 99.50% SLA (single – site) alongside 99.90% SLA for production IT in HA architecture.

Managed Services

Sify offers an integrated managed services portfolio that includes services for captives, AWS, Microsoft Azure, and SAP infra. It extends a wide range of services, including disaster recovery, managed security, database management, and middleware management, and leverages ServiceNow and CA UIM (industry best tool platforms) to offer best-in-class ITSM and automation

Flexible Consumption Model

Sify's Private cloud (VPE) offers a combination of pricing models, as under

- Committed Model: Customers pay for a committed capacity for a minimum contract period, and scale up as their businesses require
- Metered Consumption: Customers' usage is metered on a monthly basis, and they are billed as per usage

Seamless Connect

Sify can provide seamless connectivity to datacenters and hyperscale cloud service providers (through Cleanconnect service), as it operates a national MPLS network that connects 45+ datacenters, including third-party datacenters. Its collaboration with global carriers also allows Sify to support Indian MNCs with their international hosting and cloud requirements

Expertise in Managing Third-party Cloud Environment

Sify has experience in supporting Microsoft environment and VMware; it is SAP-certified for hosting cloud, HANA, and application services, as well as SAP migration

Robust Data Center Infrastructure

- Data Centers are running on 100% uptime since 2008
- 3 to 4 distinct fiber entry paths to the Data Center building provides resiliency on fiber routes
- Truly Carrier Neutral: More than 90% of fiber links are from non Sify Telecom providers
- Power densities from 3 KW to 15 KW per cabinet
- Hyper scale Data centers from 12 to 36 MW in key cities providing ample expansion capabilities
- Multiple Internet Exchange Ecosystem facilitating OTTs and ISPs interconnect in Sify Data Centers
- Services include Prepaid bulk Fiber (as per specifications), single to 10+ cross connects on demand with minimum lead-time

Reach us now

“ We are building a world in which our **converged ICT ecosystem** and our **“bring it on”** attitude will be the competitive advantage to our customers”

- Telecom services
- Data center services
- Cloud & managed services
- Application integration services
- Transformation integration services

 marketing@sifycorp.com
 www.sifycorp.com
 Sify technologies limited
 @sifytech
 [+91 87504 42233](tel:+918750442233)