

Sify Overview

CLOUD@CORE

ALIGNED TO OUR CUSTOMERS' CLOUD TRANSFORMATION PURSUIT



CLOUD ENABLING

- Cloud DC
- **Hyper reach/Hyper scale transport**
DirectConnect | Oracle FastConnect | ExpressRoute | Partner Interconnect
- Software Defined Network services
- Cloud build
Private | Hyperconverged | Enterprise
- **Security services for cloud**
- Migration and Implementation services



CLOUD INSPIRED

- Sify CloudInfinit
 - Enterprise Multi-Tenant
 - Hosted Private
 - ITaaS with Remote Managed
 - Hosted SAP/S4HANA
 - Azure Stack as a Service
- Edge Connect Services
- SD-WAN
- Collaboration services on Cloud



CLOUD PURE

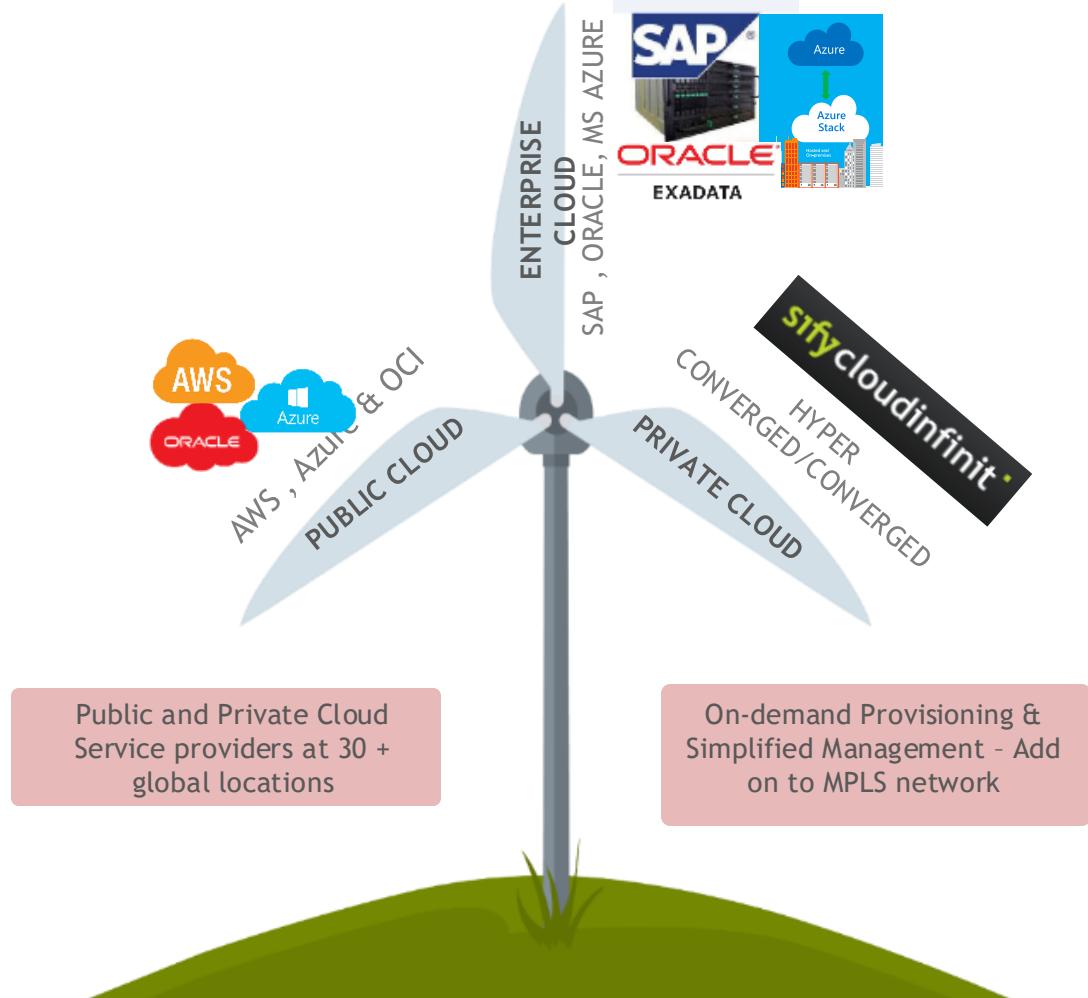
- AWS
- Azure
- Oracle
- **Multi Cloud Management platform & services**



CLOUD ENHANCED

- Modern Applications
- **Kubernetes-as-a-Service**
- **DevOps Value Chain**
- **Analytics, Data Lakes**
- AI/ML
- Forum DIGITAL
- HCM Digital(i-Test)
- Learning Management
- Internet-of-Things (IOT)
- Industry Solution-as-a-Service

MULTI CLOUD SERVICES



UNIFIED VISIBILITY

INTEGRATED ORCHESTRATION AND MANAGEMENT

SECURITY AND SERVICE GOVERNANCE

PUBLIC CLOUD



- Hyper Scale
- Pay per Hour
- Globally available

PRIVATE CLOUD



- Fully dedicated
- Compliance driven
- Flexibility to own, outsource and buy back

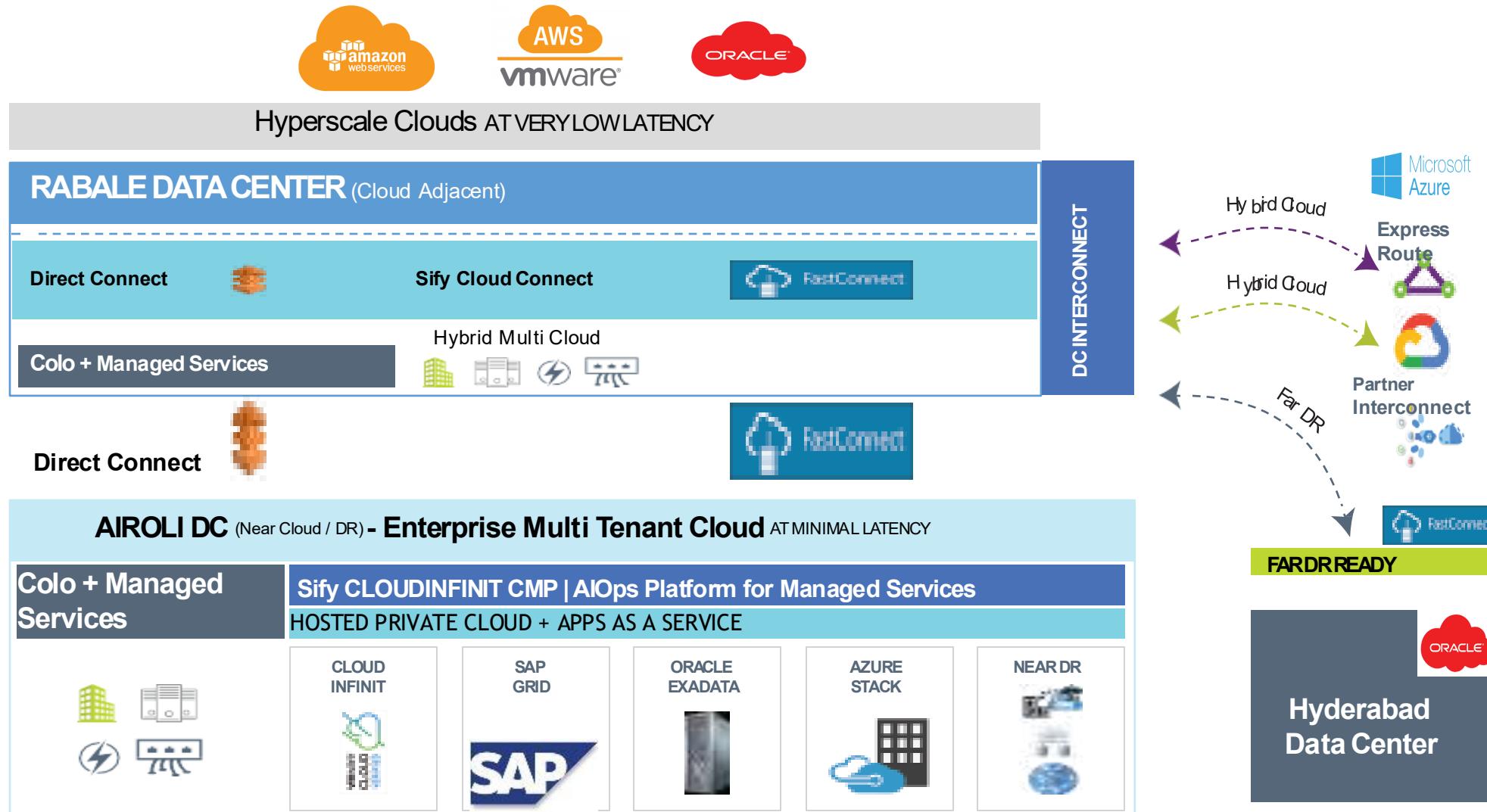
ENTERPRISE CLOUD



- Application Centric Architecture
- Blueprint driven
- Hybrid cloud ready

SEAMLESSLY INTERCONNECTED - MPLS, INTERNET VPN EXPRESSROUTE, DIRECT CONNECT, FAST CONNECT

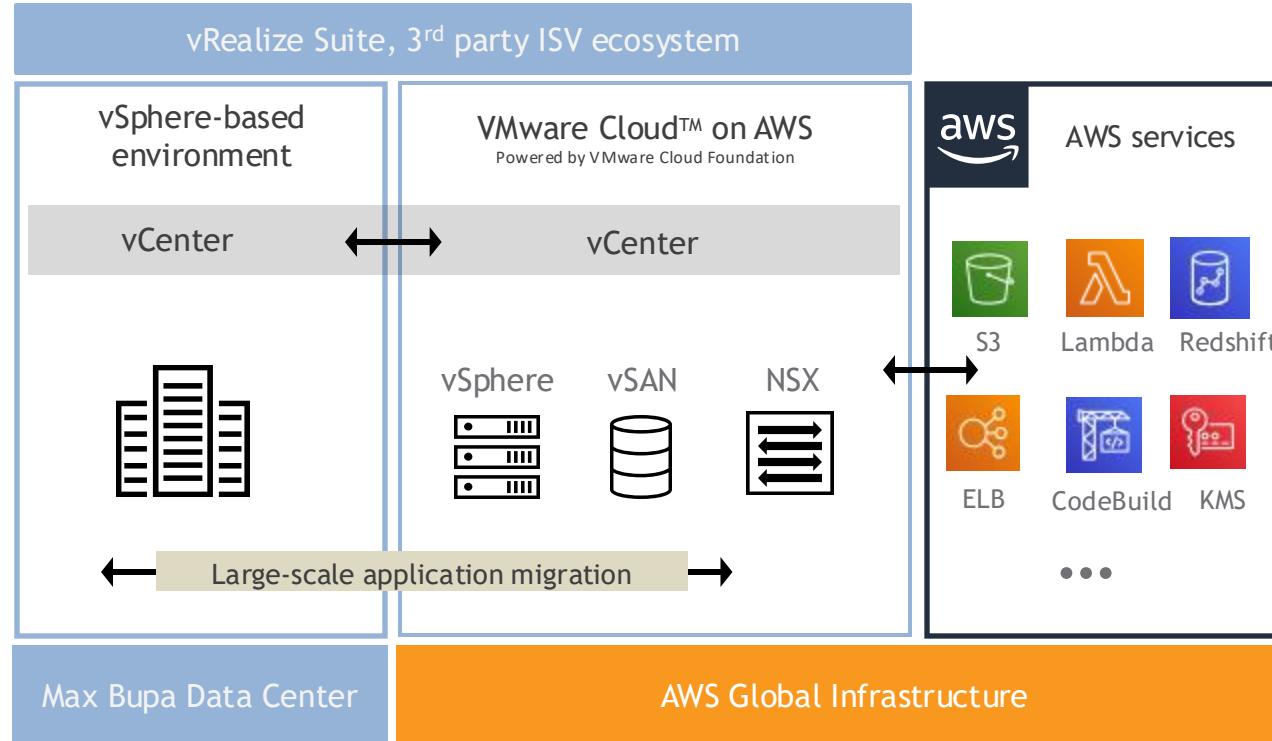
HYBRID MULTI CLOUD WITH CLOUD ADJACENCY



Business Benefits of Sify's Cloud Investment

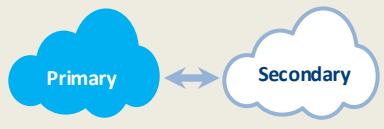
- Best of breed performance with Hybrid Cloud configuration
- Efficient integrations with extended ecosystems
- Compliance with data sovereignty
- Business continuity with resilience
- Simplicity with self service
- Operational efficiency with reduced IT administration
- Cost reduction with On-demand bursting to public clouds.

VMWARE CLOUD ON AWS: JOINTLY ENGINEERED CLOUD SERVICE



- VMware SDDC running on AWS bare metal
- Delivered, operated, supported by VMware
- On-demand capacity and flexible consumption
- Full operational consistency with on-premises
- Seamless, large-scale workload portability and hybrid ops
- Global AWS footprint, reach, availability
- Direct access to native AWS services

USE CASES : VMC ON AWS



Disaster recovery

New DR

Replace existing DR

Complement existing DR

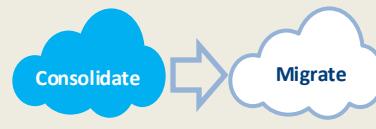


Data center extension

Footprint expansion /
On-demand capacity

Virtual Desktops / Published
Apps

Test/Dev



Cloud migrations

Application specific
BCA | Virtual Desktops

Data center wide

Infrastructure refresh



Next-generation apps

Application modernization

New application build-out

Hybrid applications

CLOUD ADJACENCY ADVANTAGES

CLOUD ADJACENCY



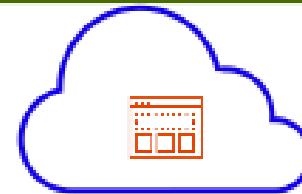
1 Move Workloads Quickly
Without Data



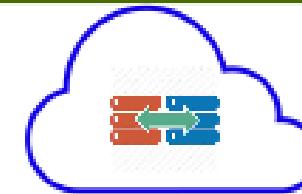
2 Data at Rest must be
in Private Control



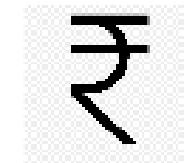
FAST LOW LATENCY INTERCONNECT



3 Legacy App can't be moved but
Surround Apps need fast access

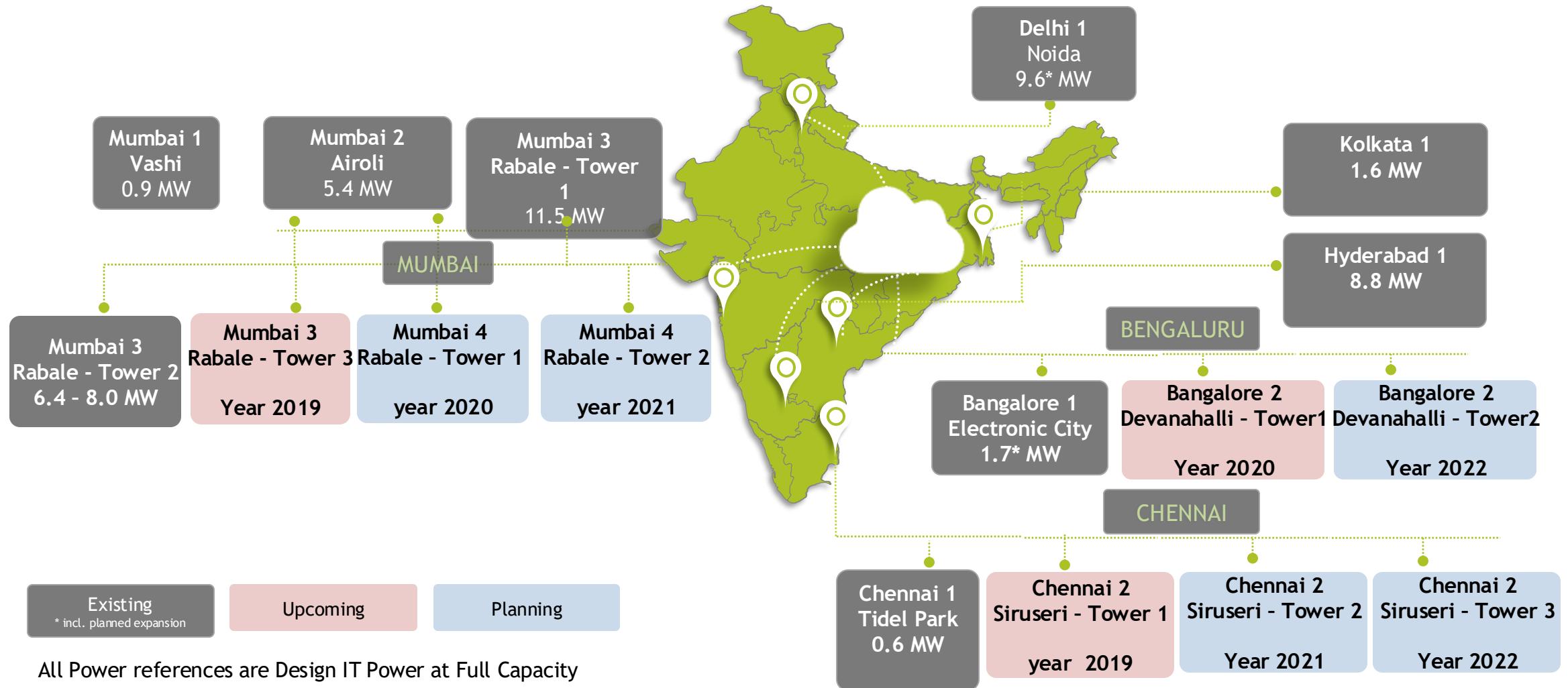


4 When real time replication
is not practical from public



5 Assets still not fully depreciated
It is still cheaper to run in private

SIFY'S DATA CENTER FOOTPRINT (EXISTING & UPCOMING)



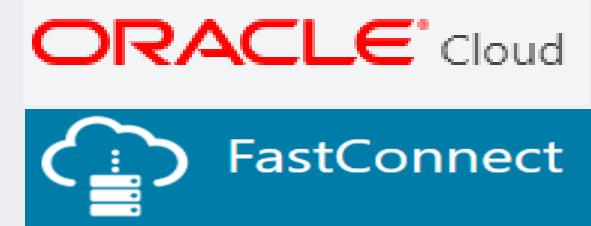
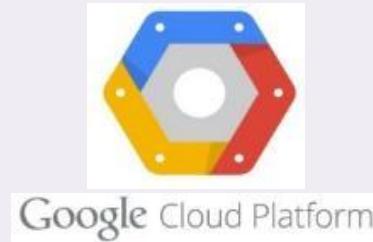
CLOUD CONNECT - NETWORK DESIGNED FOR CLOUD

GlobalCloudConnect - Cloud Connectivity services over a secure, deterministic and reliable private connection.

GlobalCloudConnect enables an enterprise to realize the full potential of their cloud by:

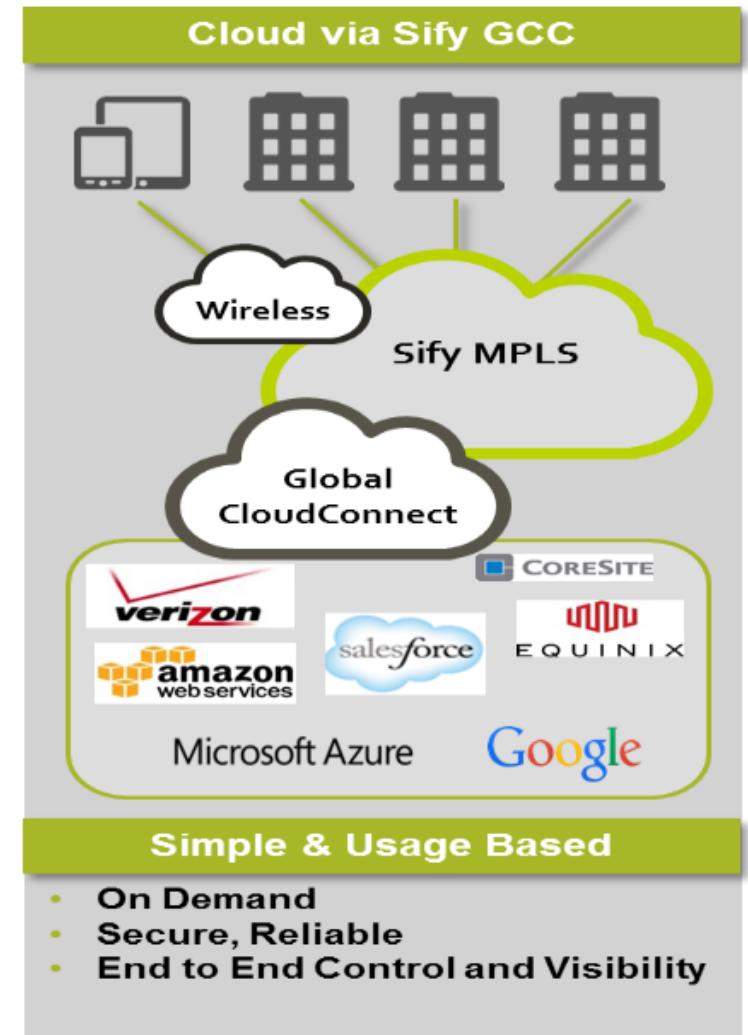
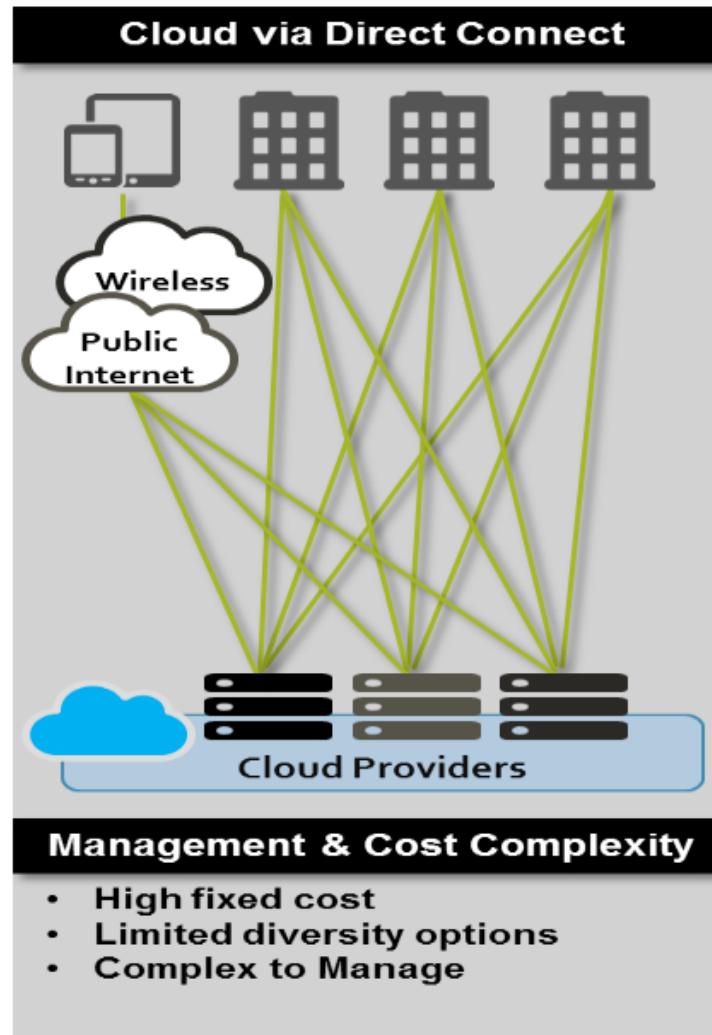
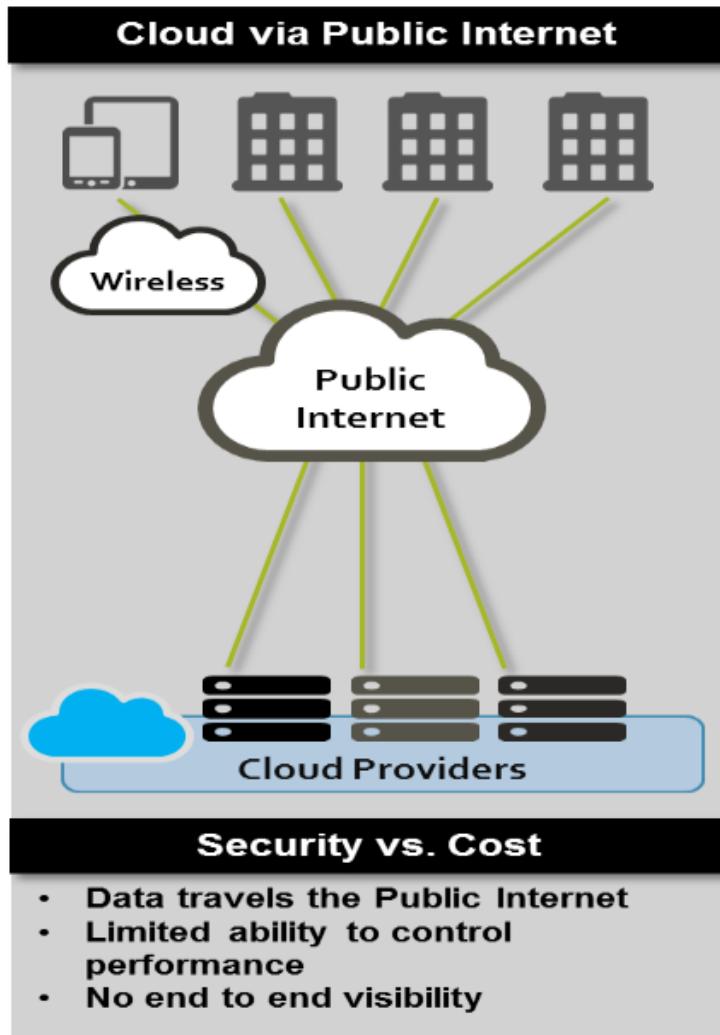
- Bespoke Solutions: because no two businesses are alike
- Faster Delivery Timelines: so that your network is as agile as the Cloud
- Predictable Performance: for you to tame your cloud better
- Secure and reliable connections: Keep your Cloud safe

GCC offers its connections into the following Cloud Platforms within India:



Leverage strategic partnerships with Service Providers across the globe for other Regions and Clouds

CLOUD CONNECT - ENTERPRISE GRADE PERFORMANCE



CLOUD CONNECT - BENEFITS

10 Public and Private Cloud Service providers at 30+ global locations

A Connectivity that offers Premium Performance/ High Resiliency

On-demand Provisioning & Simplified Management: On your MPLS network

True Bandwidth On-Demand, Pay per use to cloud nodes outside India. Fixed cost networks to cloud workloads in India



SECURE, PERFORMANCE-DETERMINISTIC PRIVATE CONNECTIVITY TO YOUR WORKLOAD ON THE CLOUD

KEY ELEMENTS OF SIFY'S MULTI CLOUD MANAGEMENT PLATFORM



Service Catalog - CI Portal, Oracle CPQ

- Service Configuration and Quote management with workflows in Oracle CPQ
- Quota based subscription for Private Clouds is available



Service Orchestration

- Infrastructure as code - Terraform, Ansible, Chef, Docker, OEM's API / CLI
- Blueprints based solutions are provisioned consuming subscribed capacity / quota



Service Metering and Chargeback

- Public Cloud - Various Tools
- Private Cloud - Sify Implementation
- Invoices are raised through Oracle ERP



Service Desk

- ServiceNow
- Provisioned resources and configurations are updated in ServiceNow - CMDB
- Automated Service Request / Incident Request creation



Resource Governance

- CMDB - Service Now



Service Assurance

- CA
- Provisioned resources are monitored



Managed Services

- Assessment and Migration
- Life Cycle Management
- Resiliency, backup and DR

MULTI-CLOUD MANAGEMENT PLATFORM (GENERATION 4)

LIFE CYCLE MANAGEMENT WITH BLUEPRINTS



Composed of cloud resources like VPC, Subnet, Instance & EIP as a single solution



Customize prebuilt / build from scratch

Choose cloud resources with simple clicks
Refer existing resources to build a solution topology
Specify parameters for a specific project



Reverse Engineer from an existing Deployment (sat Dev)
Adapt for higher levels (staging, production, volume testing)



Provisioned, decommissioned, managed as single unit

The screenshot displays two main views of the Sify CloudInfiniIT platform.

The top view shows the "Blueprints" section of the dashboard. It features a sidebar with navigation links: Blueprints, Deployments, Bootstrap Scripts, Quota, and Provider Accounts. The main area is titled "Blueprints" and contains two tabs: "Common Blueprints" and "My Blueprints". Under "Common Blueprints", there are ten cards representing various infrastructure stacks:

- AWS Web App: This AWS blueprint includes VPC, Subnet, Internet Gateway, SG and with Instance-EIP.
- Oracle Cloud Network & VM: A complete infrastructure with network, subnet, internet gateway, instance with...
- Azure ForumNXT Solution: Complete infrastructure for ForumNXT applications.
- AWS EC2 with EIP: Single EC2 Instance with Elastic IP (EIP).
- Google Cloud Platform: Single compute instance.
- AWS Auto Scaling Group: Single EC2 Instance with Auto Scaling Group (ASG).
- VPDC Standard: VPDC with standard firewall, internet connectivity and a logical network.
- AWS Two Tier: Single EC2 Instance with Elastic Load Balancer (ELB).
- VPDC with VPE: VPDC with Virtual Private Environment (VPE) with a...
- VPDC with SAP: VPDC with specialized SAP environment for SAP.
- Azure Network: Single Virtual Network with a subnet.

The bottom view shows a detailed look at the "AWS Web App" blueprint. It has a similar sidebar and title bar. The main content area is titled "Blueprint: AWS Web App" and shows a table of resources:

Name	Type	Class	Prime Fields
vpc	aws_vpc	resource	cidr_block : 192.168.0.0/16
internet_gateway	aws_internet_gateway	resource	vpc_id : vpc
route	aws_route	resource	route_table_id : , destination_cidr_block
subnet	aws_subnet	resource	vpc_id : vpc, cidr_block : 192.168.1.1/24
sg3	aws_security_group	resource	name : sg3
instance	aws_instance	resource	ami : ami-0ac019f4fc7cb7e6, instance_type : t2.micro
eip	aws_eip	resource	instance : instance

To the right of the blueprint details, there is a "Add Cloud Resource" modal window with categories for AWS services like EBS Volume, VPN Gateway, DB Instance, IAM User, EFS File System, EIP, VPC, Security Group, and Route Table, each with an "Add To Blueprint" button.

ADDING / MODIFYING / REMOVING CLOUD RESOURCES WITH SIMPLE CLICKS

The screenshot displays two main panels of the sify cloudinfini Multi-Cloud interface.

Blueprints Panel: This panel shows a grid of pre-defined cloud infrastructure templates (Blueprints) for various providers. The templates include:

- AWS Web App
- Oracle Cloud Network & VM
- Azure ForumNXT Solution
- AWS EC2 with EIP
- Google Cloud Platform Single Compute Instance
- AWS Auto Scaling Group
- VPDC Standard
- AWS Two Tier
- VPDC with VPC
- VPDC with SAP
- Azure Network

Add Cloud Resource Panel: This panel is a modal window titled "Add Cloud Resource". It lists various AWS services with "Add to Blueprint" buttons. The services include:

- EBS Volume
- VPN Gateway
- DB Instance
- IAM User
- ELB
- IP
- VPC
- Security Group
- Route Table

SIFY ENGINEERED SECURITY SERVICES (CLOUD/DC)

Security Services Stack
for Sify DC & Cloud



Security Services Stack
for any cloud



VPDC FW
Services



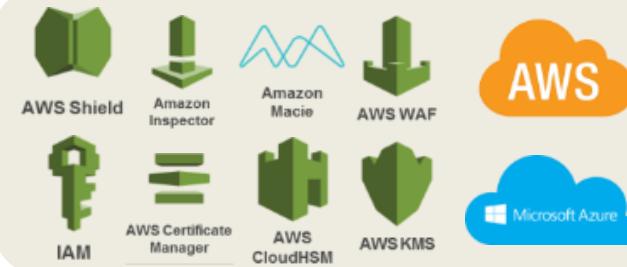
Web App
Firewall



Network
IPS



VPN GW



Cloud native
Security services



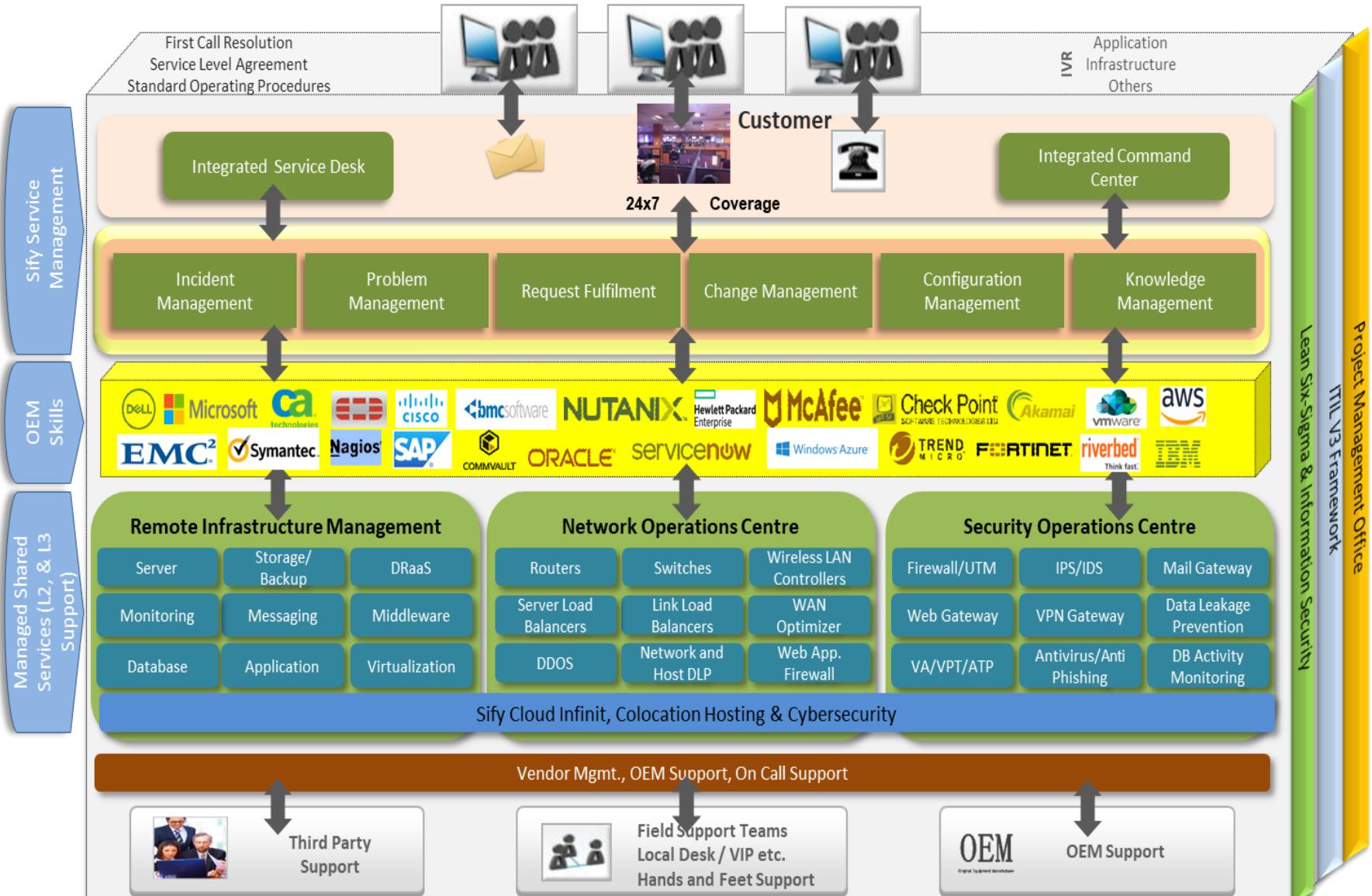
IT OPS SUPPORT MODEL - POWERED BY SERVICE NOW & CA

Solution drivers

- Risk mitigated Transition of Services
- Process standardization

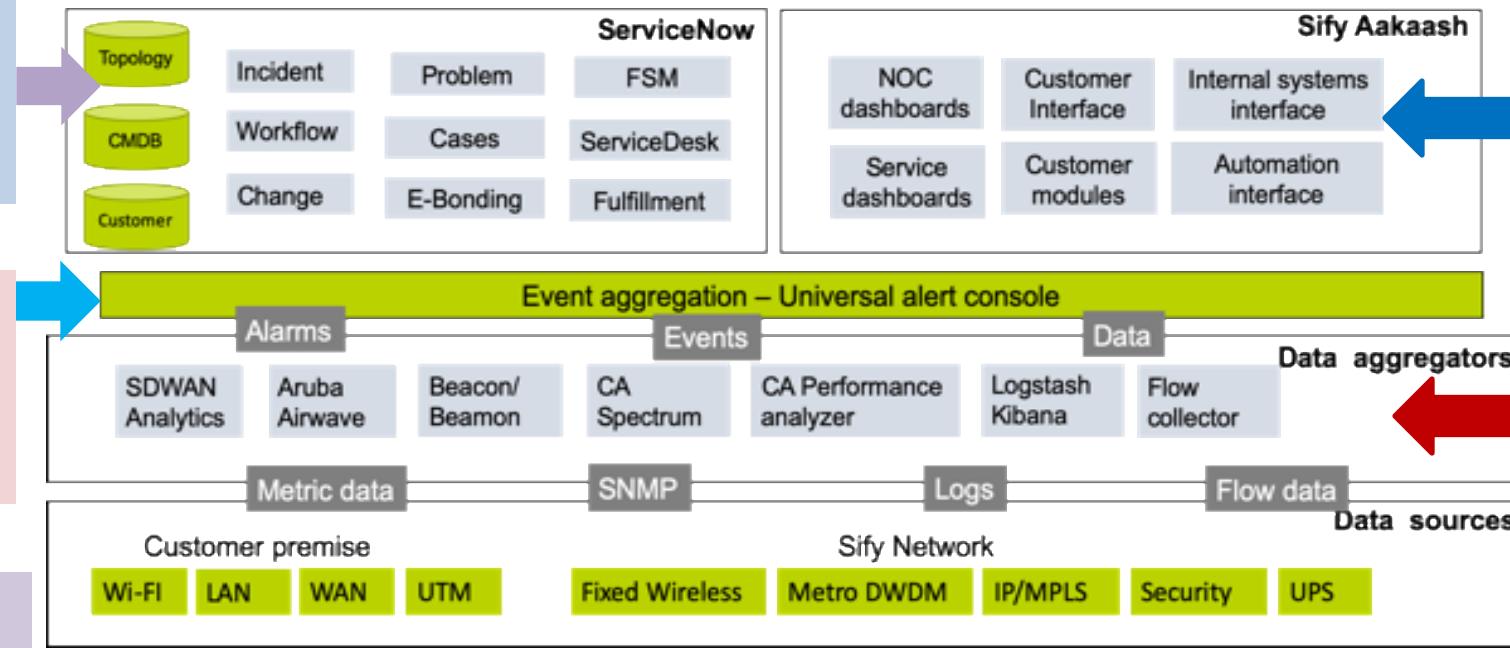
Solution Highlights

- Single point of contact and SLA based Service Ownership across the entire Data Centre Network
- Consistent Service experience through Service Management Office (SMO) to implement and ensure ITIL process and compliance
- Covers range of devices from leading vendors supporting various business needs
- Single point of ownership - End to End SLA
- 24x7 Monitoring and Management by specialized technical team



SIFY ADVANTAGE : BUILDING AGILE PLATFORMS

- Service management systems to deliver ITSM compliant service.
- Integration with partners for single point ownership.
- Automation integration between service and networks.
- **Model driven assurance**



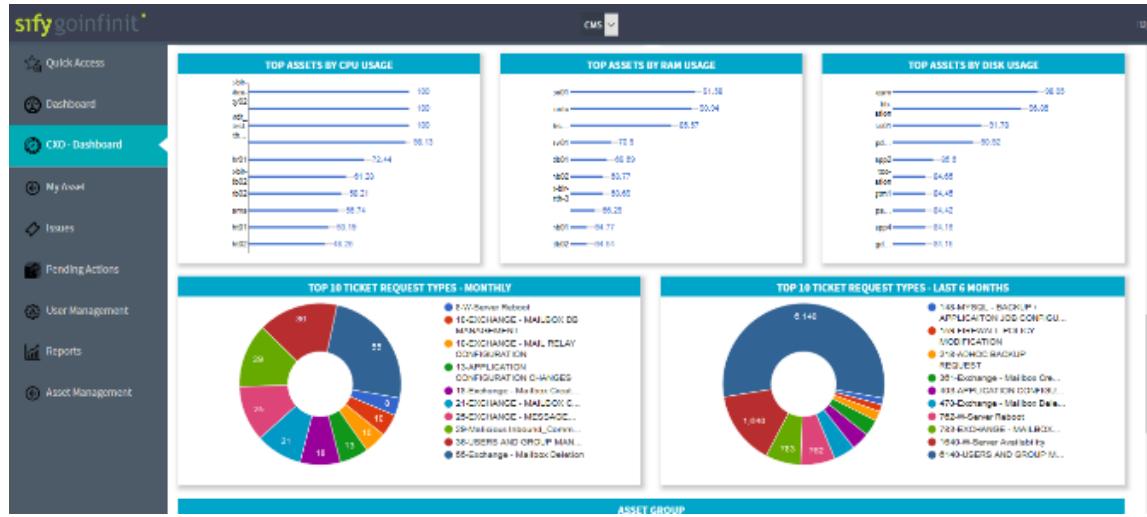
- Aggregation of events cross domain.
- **Supervised rules and enrichment**
- **Priority based ranking**

- Machine learning based systems to reduce noise, increase focus and aid in Root cause issues.
- Continuous learning systems augmented with human knowledge and context.

Aakaash as the digital interface into the network

- Ability to integrate with LAN, WAN, DC, Network security and SD technologies
- Multi-vendor support.
- Customization to override device telemetry limits

SERVICENOW CUSTOMER CXO DASHBOARD



“Build a high-value customer-centric organization through Cloud-Native Digital Transformation”



INDUSTRY RECOGNITIONS



Gartner

- Recognition in Critical Capabilities for Managed Hybrid Cloud Hosting APAC 2018
- Recognition in Market Guide for Top Data Center Service Providers 2018
- Recognition in Market Guide for Vulnerability Assessment and Penetration Testing Consulting Services in India 2019
- Recognition in MQ for Data Center Outsourcing and Hybrid Infrastructure Managed Services, Asia/Pacific 2019



Main Player
Market for Cloud Managed Services APIs 2019



The Economic
Times Cloud Player
2018



DataCenter
Transformation
Services 2018



Network
Transformation
Services 2018



Leadership Recognition
Cloud Transformation
Network Transformation 2019



VMware
Cloud
Platform



AWS



Oracle
Database

SIFY DIGITAL SERVICES

- Cloud-Native Value Chain
- Conversational AI
- Optical Character Recognition (OCR) | Image Character Recognition (ICR) | Computer Vision
- Machine Learning
- Analytics
- RPA & Cognitive Automation
- App Modernization
- Intelligent Collaboration Services

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Realize the unlimited potential of Digital Transformation

sify

**Achieve your
digital
ambition**
with Sify Cloud-Native
Value Chain



THE FUTURE OF CLOUD-NATIVE VALUE CHAIN

- By 2023, 70% of AI workloads will use application containers
- By 2022, 75% of global organizations will be running containerized applications in production
- By 2022, 50% of containerized workloads will span across hybrid environments
- IT/ITES and BFSI are top sectors looking for agile app development
- 50% of adopters use containers for testing/development, pilot projects
- 25% of adopters use containers for production environment
- Use of Containers in Edge Computing is gaining a lot of traction recently
- Use of Kubernetes in a Hybrid-Multicloud environment is getting popular
- CI/CD and app modernization for on-premises and cloud-native environments have become essential

SIFY'S CLOUD-NATIVE VALUE CHAIN

Businesses of all sizes are keen to accelerate their digital transformation journey. That's why we have seen phenomenal rise in the popularity of Kubernetes, Containers, and Micro-Services in recent years.

However, it's not easy to operate/scale Kubernetes, containerize applications, and integrate it into existing IT environment. That's where Sify's Cloud-Native Value Chain and Kubernetes as a Service model become important.

We provide in-depth expertise for ensuring key business objectives of availability, scalability, security, resilience and economics. Our Cloud-Native Value Chain connects islands of discrete Tool-Chains to synergistically bring out high levels of efficiency for all stakeholders to increase the velocity to market.

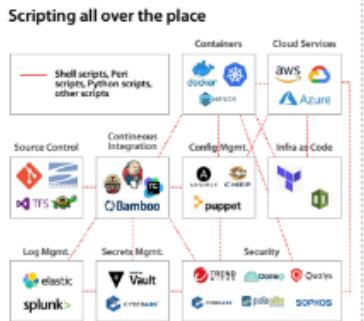
THE SIFY ADVANTAGE



VALUE-CHAIN TRANSFORMATION

Connect discrete Tool-Chain to synergistically enhance efficiency

Traditional Enterprise DevOps



Sify's Cloud-Native DevOps



Business and Technology Leaders are looking for

- Accelerated Time to Market
- Technology modernization – cloud adoption and automation
- Operational excellence – cost optimization and governance

This is exactly what Sify enables!

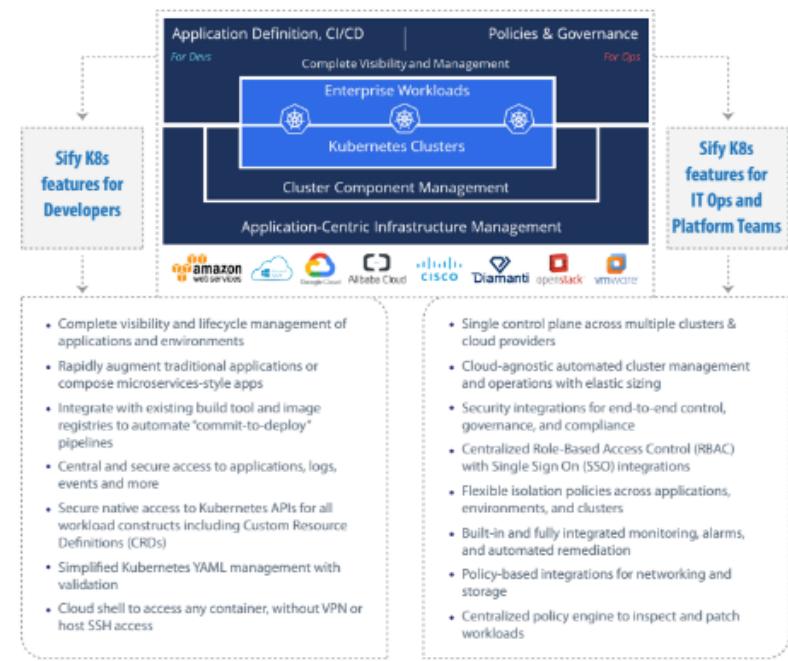
We help you

- Save 30-50% on overall Ops
- Accelerate your technology journey in terms of cloud migration and adoption
- Bring agility in the way your products are executed or released
- Scale and secure your products

Sify's objective is to

- Help your product teams focus on features, not delivery
- Simplify the use of cloud and other new technologies
- Assist you to save money on operations

CLOUD-NEUTRAL KUBERNETES AS A SERVICE



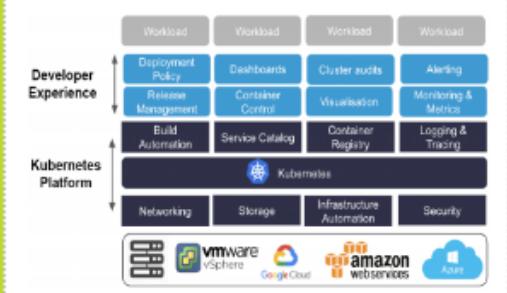
VALUE PROPOSITION



SIFY K8S FOR CLOUD NATIVE VALUE CHAIN

- Complements and completes Kubernetes for DevOps teams
- Accelerates innovation by enabling adoption of cloud-native technologies
- Allows enterprise DevOps teams to deliver better software, faster
- Enables focus on higher-level policy-based DevOps workflows
- Facilitates direct use of underlying systems whenever needed
- Provides full visibility and control of the value chain

SIFY K8S



ARCHITECTURE APPROACH FOR CLOUD SERVICES ORCHESTRATION



Service Access

Service Layer

Service Orchestration

Resource Providers

Service Monitoring & Assurance

Unified Control Plane

Hybrid Cloud

SERVICE CATALOGUE STREAMS

B. ENTERPRISE IaaS CLOUD ORCHESTRATION WITH CI



4. CLOUD OPERATIONS

4.1 TOOL CONFIGURATION

Self Service Portal
Element Managers
Service Now
Monitoring Tools
Backup / DR / MSSP
4.3 Resource Metrics Dashboard for Cloud Economics



4.2 SERVICE MANAGEMENT

Service Orchestration
Service Assurance
Service Metering
Service Desk
Service Request Mgmt

A. ORCHESTRATION OF THE CLOUD

3. VIRTUAL INFRASTRUCTURE OPERATIONS



Resource Pools Management
(Compute, Network, Storage) Image management
Policy Management - Resource Pool to Service Map

2. PHYSICAL INFRASTRUCTURE OPERATIONS



2.1 Capacity Management
2.2 Break Fix Management
2.3 Change Management

1. PHYSICAL INFRASTRUCTURE



Compute, Storage, Network

sifycloudinfinity



C. BUSINESS CONTINUITY

5. REPLICATION, BACKUP AND DR



D. SECURITY OF THE CLOUD

6. IDENTITY ACCESS MANAGEMENT



7. COMPLIANCE REQUIREMENTS



E. HYBRID MULTI CLOUD WITH CI

8.1 Hosted Private.



Sify DC

2. PHYSICAL INFRASTRUCTURE OPERATIONS
3. VIRTUAL INFRASTRUCTURE OPERATIONS
4. CLOUD OPERATIONS



Sify or Tenant Admin



3rd Party DC

2. PHYSICAL INFRASTRUCTURE OPERATIONS
3. VIRTUAL INFRASTRUCTURE OPERATIONS
4. CLOUD OPERATIONS



Sify or Tenant Admin

8.3 Hybrid Multi Cloud



4. CLOUD OPERATIONS

a. CloudInfinity
b. Hosted Private
c. Cloud Machines

Outpost, Exadata, Azure stack, HCI
d. Non-X86 infrastructure

AWS/ Oracle/ GCP/ Azure/ VMC

F. MANAGED SERVICES

9.1 AVAILABILITY MANAGEMENT.

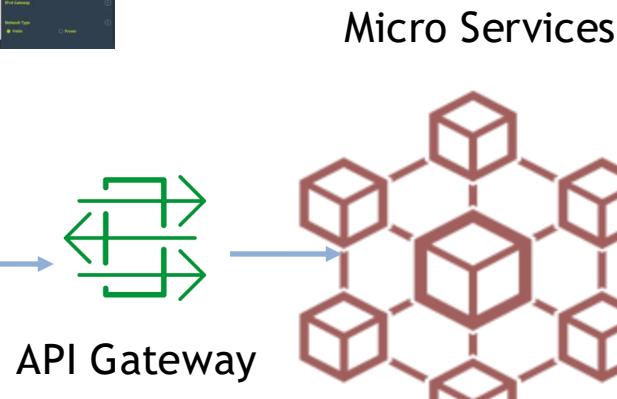
OS/ DB/ Middleware Patching
Alert monitoring / Event resolution



9.2. MANAGED SECURITY SERVICES



IN THE ENTERPRISE CLOUD - HIGH LEVEL SERVICE ORCHESTRATION FLOW

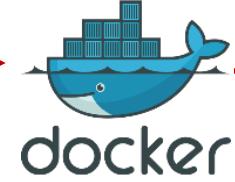


servicenow

Authentication
Authorization,
Resource Governance,
Transformation,
ServiceNow CMDB



Orchestration
Engine



docker



ANSIBLE

Infrastructure as Code

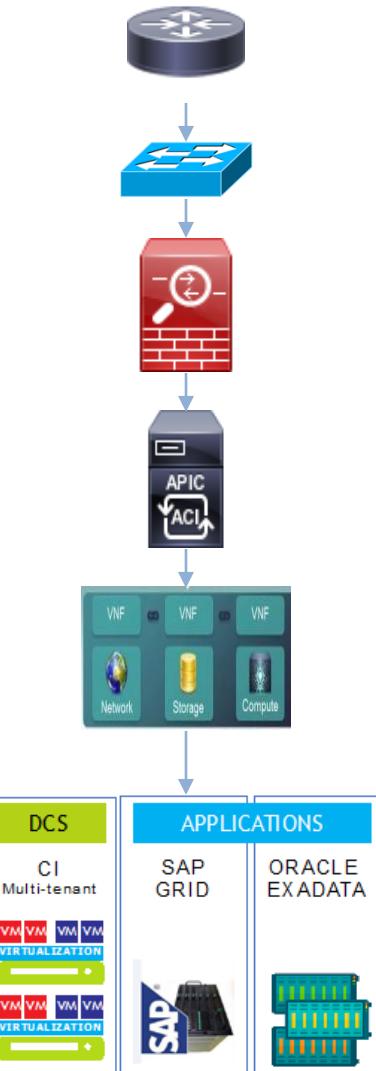


TERRAFORM

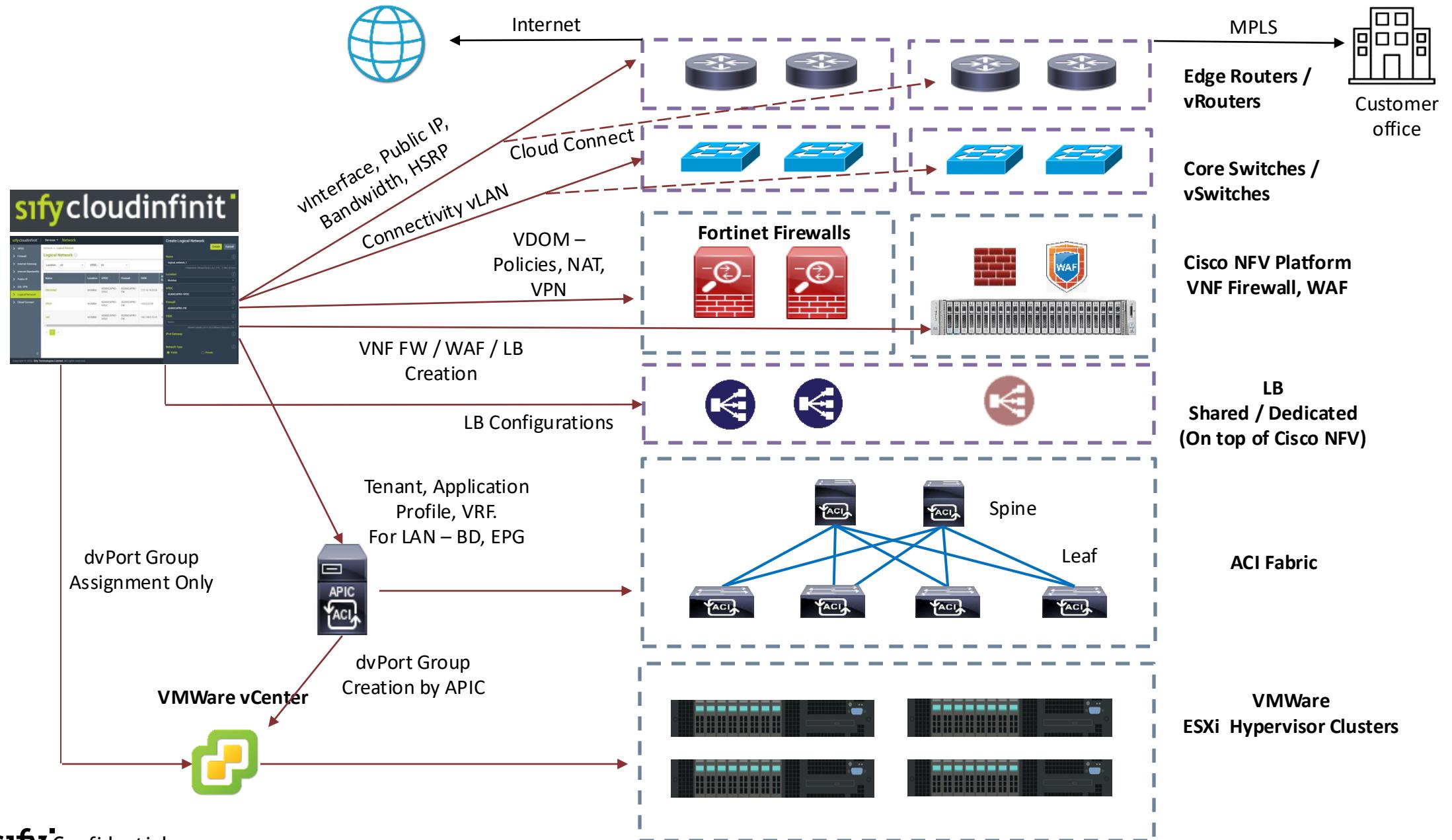


API Engine

REST / SOAP API



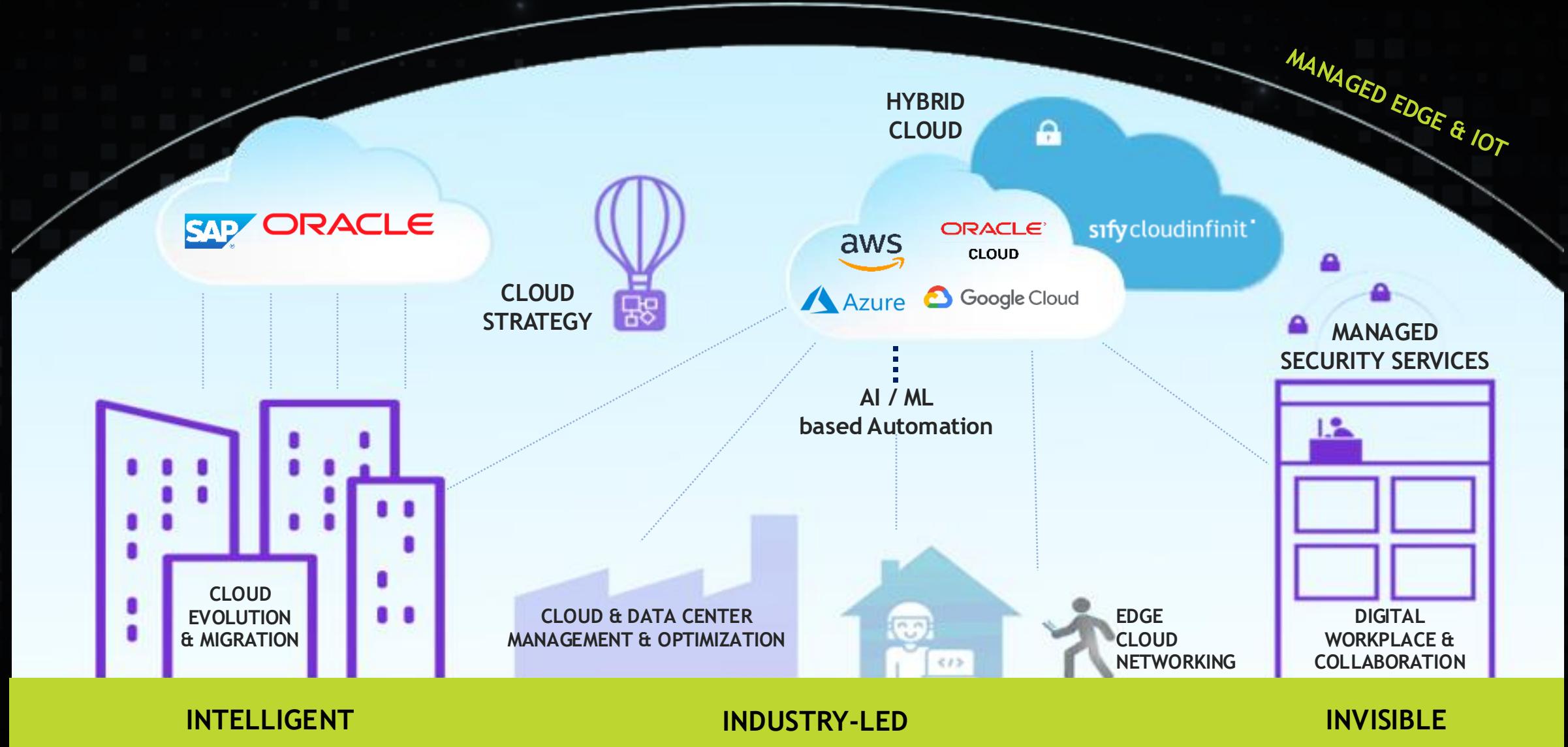
CI ORCHESTRATION - ACI NETWORK





MULTICLOUD ORCHESTRATION

SIFY - A COMPLETE CLOUD PARTNER ENABLING DIGITAL SERVICES



SIFY - HYPERSCALER PARTNERSHIPS



AWS Partner Network member and recognised as
1. Advanced Tier Consulting Partner
2. Channel Reseller
3. Direct Connect Partner



One of the key AWS Direct Connect Provider in PAN India, Sify has a unique advantage of having the Direct-Connect as well as its own Metro Ethernet connect that provides connectivity speed up to 10G+



Only partner in India who can offer low latency, with cloud adjacent DC to AWS cloud from Sify Rabale DC



Oracle Partner Network member for
1. Cloud service track
2. Cloud sell track
3. License and hardware track

One of the key Oracle Fast connect Provider in PAN India, Sify has a unique advantage of having the Fast-connect nodes terminating in its Rabale and Hyderabad DC there by reducing interconnectivity cost

Only Partner in India who can offer Cloud adjacent datacenter to Oracle cloud by virtue of Oracle cloud being hosted in Sify's Rabale and Hyderabad DC
Only Partner in APAC who can provide "Exadata as a service"



Microsoft Gold Partner (App Development & Integration, Cloud Platform, Collaboration and Content)
Microsoft LSP (Licensing Solution Provider), Tier 1 Direct CSP, SPLA Reseller and Managed Reseller

One of the key Express Route Provider in PAN India and Hosting Govt. Community Cloud on Azure Stack for Maharashtra Govt

Only partner who has Infrastructure and capability around Private (Hosted Azure Stack in Sify DC), Public and Hybrid Cloud on Azure



GCP Premier Cloud Partner
Partner gains access to additional tools:
Partner Sales Tool, Directory, Google University, Reseller Consoles

GCP Cloud Interconnect Partner
Sify provide secure and high performance GCP cloud network services

Partner in India who can offer Cloud adjacent datacenter to GCP cloud by virtue of GCP cloud POD at Noida, Mumbai

SIFY CMP: FINOPS CUSTOMER BENEFITS

Enable **digital transformation** with cost and performance controls. **Faster time to decisions and remediations** saving operational costs (OPEX) and improving profitability.

Savings ranging from 25 to 75% of total cloud spend.

Provide near **real-time observability and visibility** in (unexpected) cloud costs, wastes, and future trends for **faster containment of cost sprawls**.

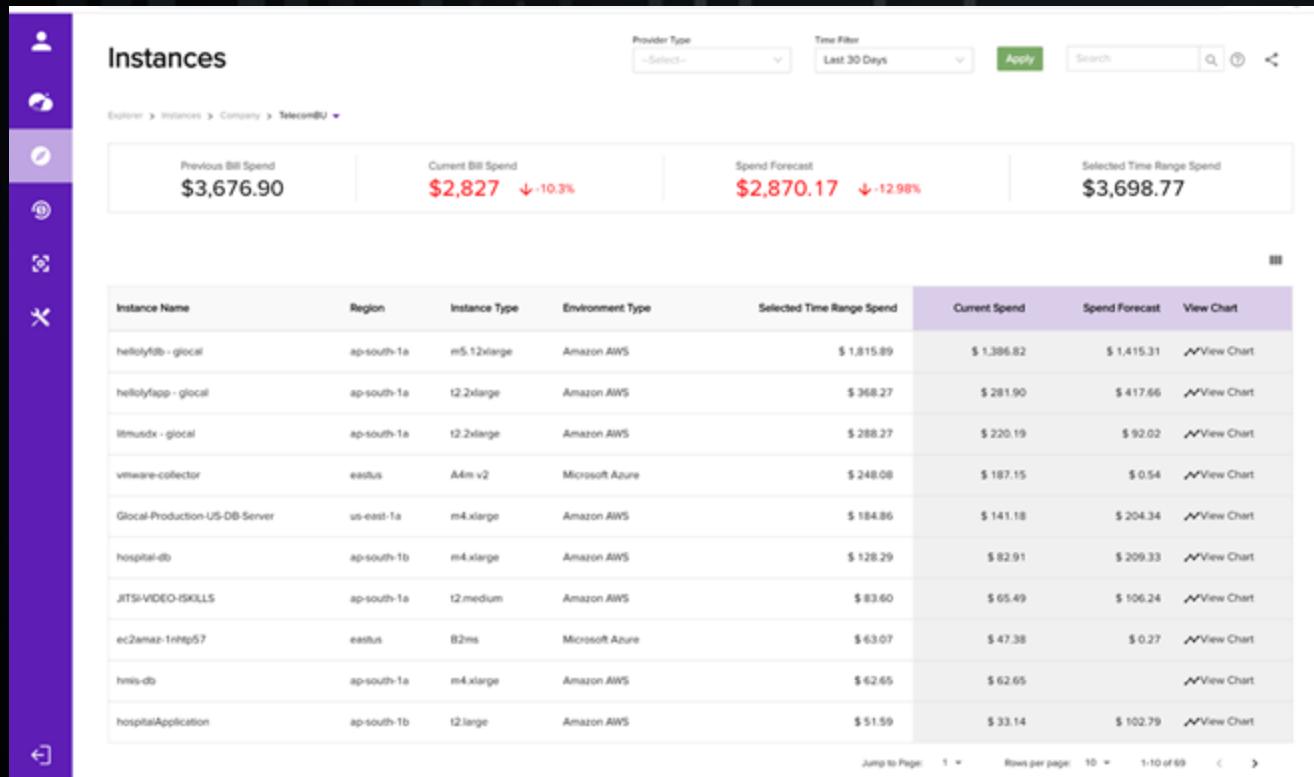
Allow **self-service** amongst FinOps practitioners who now can manage at least 10x more cloud footprints.

Automate budget controls and policy implementations in federated organization structures, driving **compliance and company policy adherence**.

[More...](#)

REAL-TIME OBSERVABILITY SHOWING SPENDING

Customer scenario: Cloud enterprise wants to understand their cloud consumption across different categories such as instances, storage, networking, containers, scaling groups, and services. In addition they want to understand how much cloud waste there is in each category. They used to use scripts and manual methods to figure these out, and each time it would take them months.



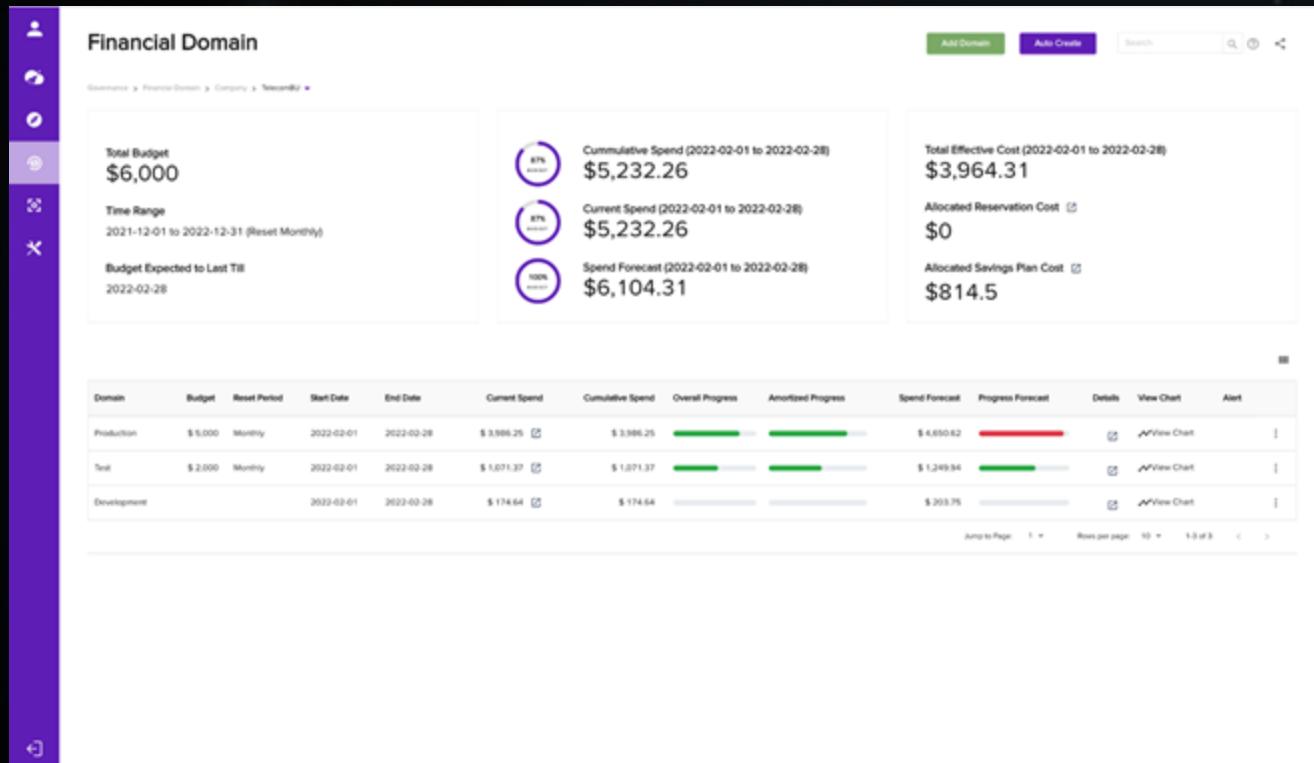
With Sify Multi-CMP FinOps

- Large amount of pricing and utilization data are analyzed in real time showing cloud consumptions in instances, storage, networking, containers, scaling groups, and services.
- **Cloud waste** in each category is also shown.
- Users can also find **cost trends and utilization trends** for each resource in the drill-down.

[Back...](#)

CHARGEBACK AND BUDGETING

Customer scenario: Government entity, which has many organizational sub-units, needs self-service reports for sub-unit level consumption for chargeback and budgeting analysis. They use multiple clouds, in particular AWS, MS Azure, Kubernetes, etc.



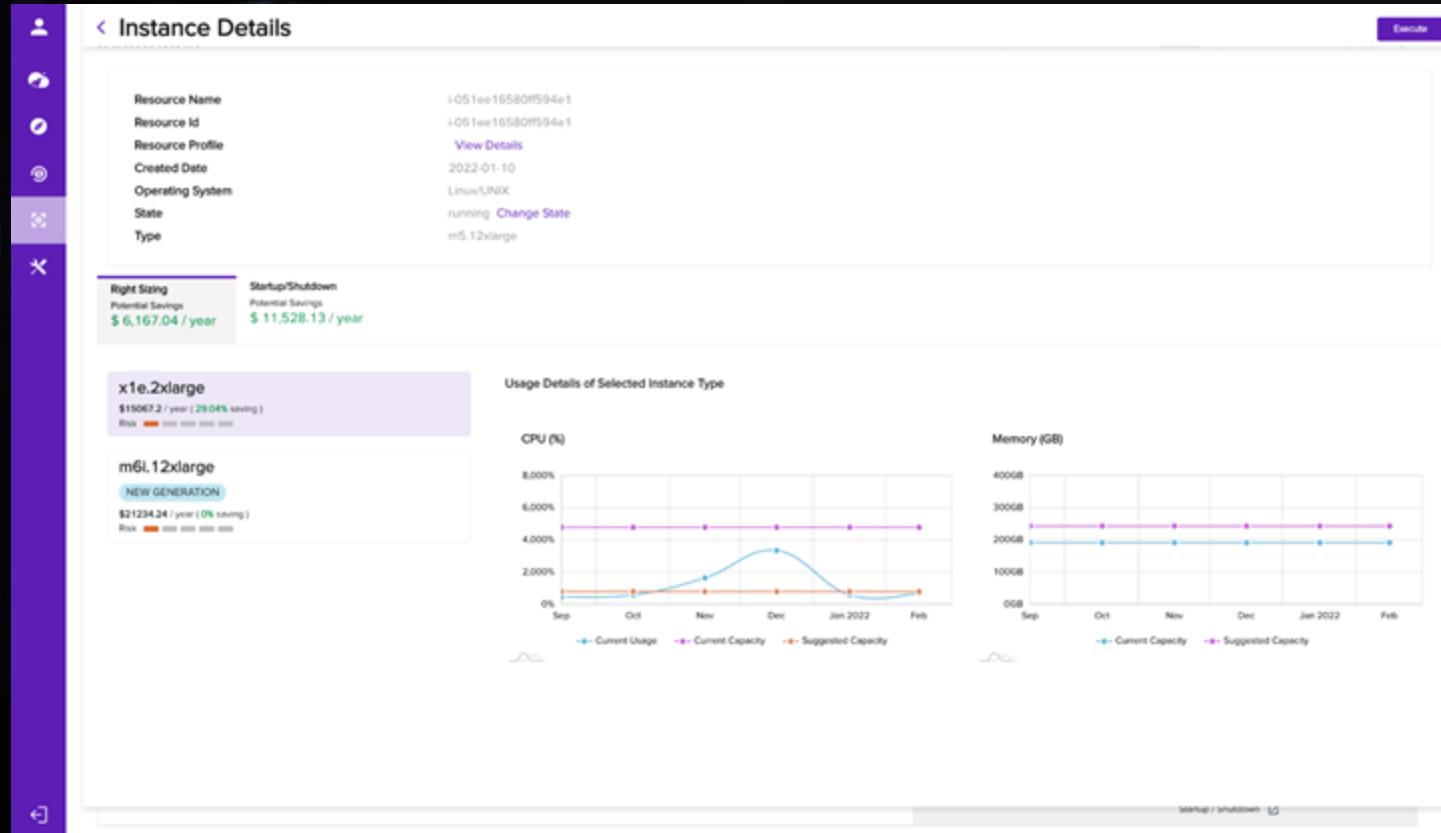
With Sify Multi-CMP FinOps

- Administrator can easily **group cloud resources** (including Kubernetes constructs and cloud services) from multiple clouds **using FinOps Financial Domain**.
- Each financial domain represents one organizational sub-unit, with **chargeback/showback and budgeting capabilities**. **Shared cost allocation enabled**.
- Forecast** of future consumptions.
- Real-time budget alerts** sent via emails or ticketing systems such as ServiceNow and PagerDuty.
- Role-based control access allowing for organizational unit stakeholder(s) to **self-service** on FinOps to understand their consumptions and pay their share of cloud costs.

[Back...](#)

RIGHTSIZING CLOUD RESOURCES

Customer scenario: After lift-and-shift from on-prem to the cloud, many cloud resources are over-provisioned. Cloud enterprises need full knowledge of utilization trends and recommendations to make the right decision.



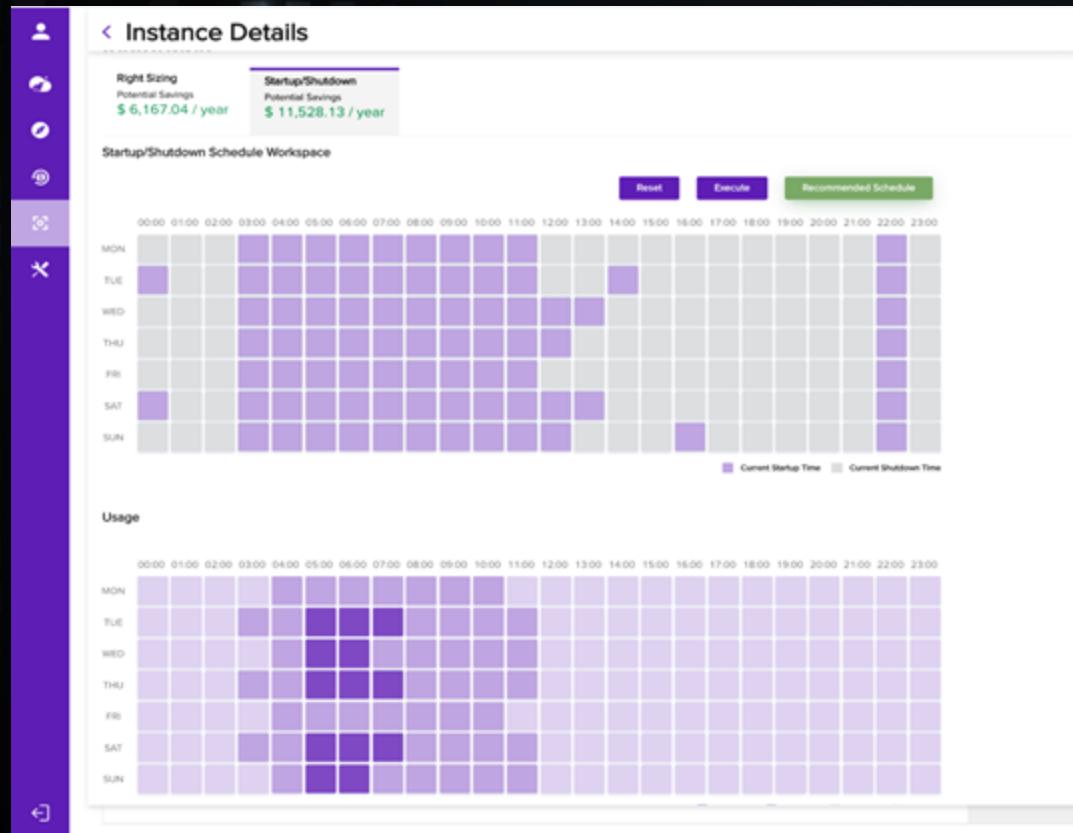
With Sify Multi-CMP FinOps

- Each instance has a **few recommendations with risk level specified for rightsizing**.
- Users can make the determination by looking at the **resource utilization trends over a chosen time period**.
- Rightsizing also applies to other cloud resources such as storage, containers, and more.

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SAVE CLOUD COSTS ON NON-PRODUCTION ENVIRONMENTS

Customer scenario: The DevOps team leaves their non-production cloud instances on 24/7. Research shows that these instances are sitting idle about 76% of time on average. The company needs an automated way to start up and shut down the instances at proper times.



With Sify Multi-CMP FinOps

- Our ML-based algorithms study the usage pattern of each of the instances and make recommendations for **smart startup and shutdown schedules**.
- These startup and shutdown schedules can be applied **on individual instances or a group of inter-related instances (Service Domains)**
- These schedules, once applied, automatically executes accordingly.

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SINGLE SIGN ON FOR CMP, FINOPS & ITSM

The image displays three separate application interfaces, each with a red box highlighting a specific menu item or section:

- CMP Demo Organisation (Left):** Shows a navigation bar with 'Cost Management' and 'Managed Services' highlighted.
- sifygoinfiniti (Middle):** Shows a navigation bar with 'Dashboard' highlighted. Below it are three summary cards: 'SUMMARY OF SERVICE REQUEST' (4 Open, 3 In-Progress, 1 On-Hold), 'SUMMARY OF INCIDENT REQUEST' (0 Open, 0 In-Progress, 0 On-Hold), and 'SUMMARY OF CHANGE REQUEST' (49 Open, 24 Scheduled, 0 Re-Scheduled, 0 On-Hold, 275 Closed).
- Financial Domain (Bottom):** Shows a dashboard with 'Total Budget' (\$200,000.00), 'Current Consumptions' (\$150,000.00), 'Forecast Consumptions' (\$150,000.00), and a donut chart showing consumption levels (50% Consumed, Over 50%, 0% Consumed, 90% Consumed).

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