

# Sify builds a Highly Resilient Direct Connect Setup to access multiple AWS workloads.



## Case Brief

ICICI Lombard is a General insurance Company running their Enterprise workloads across their on-Prem DC and various Public Cloud Platforms. Their Business Portal ran out of their On-Prem Datacenter in Hyderabad. This Business Portal constituted over 200 applications accessed by all ICICI Lombard's Business agents for various purposes to support their end user. This is customer data that travels from their branch sites to the DC site.

ICICI chose AWS as their Cloud Service Provider for running this Business Portal. This has been hosted over multiple workloads across various accounts in the AWS Mumbai Region. While ICICI had subscribed to multiple VPCs across various accounts in the AWS region, they needed an easy to manage consolidated Network to these workloads without a single point of failure couple with geographical diversity that ensured no access was not lost if one DX location went under maintenance or had an outage.

The project was completed in two phases – concept testing and the final migration)

## The Challenge

- ICICI Lombard has subscribed for AWS services in the AWS south region. These workloads are to be accessed by their branches through their on-Prem DC in Hyderabad.
- The applications have been deployed across various workloads and accounts in AWS.
- ICICI needed to migrate 200+ applications from their DC to AWS. These applications are a part of their Business Portal accessed by their agents to sell and manage insurance plans to their clients.
- As per RBI guidelines, ICICI branches cannot directly access the AWS workloads, therefore, the DC has some servers installed to transfer the branch traffic to AWS.
- This setup needed to be built without a Single Point of Failure and ensuring Service Provider Level Diversity at the DC site to ensure continuous access to AWS.
- However, managing multiple Direct Connect Connections across multiple workloads would make management and monitoring of the network cumbersome.
- Regulation mandates that the traffic bypasses the Public Internet owing to security reasons.

## Sify's GlobalCloudConnect Services

Sify proposed its GlobalCloudConnect (GCC) services over Sify's highly resilient MPLS Network Backbone. GCC, Sify's suite of Cloud Connectivity services, has been designed to keep an enterprise's network as agile as their Cloud. GCC enables enterprises to access their Cloud workloads from their on-premises Datacenters over a secure, deterministic, and reliable network. Thus, allowing enterprises to manage risk and data traffic as per their business needs. Enterprise grade performance networks provided by leveraging the country's one of the largest MPLS backbones and high-performance Datacenter networks makes GlobalCloudConnect a one-stop solution for Cloud Connectivity.

GCC supports AWS Networking services for connecting a customer's On-Prem DC and branch Network to their AWS services. These include support for Dedicated Direct Connect at all Connectivity Nodes, Hosted Direct Connect Services at all connectivity nodes (Delhi and Hyderabad are under implementation), Direct Connect Gateways, Transit Gateways and Transit VPCs. Sify's Internet services support IPsec Tunnel for VPN Networking deployed in cases as backup for DX links.

## ICICI Lombard



ICICI Lombard General Insurance Company Limited is a general insurance company in India. It is engaged in general insurance, reinsurance, insurance claims management and investment management. The company has a Gross Written Premium of ₹135.92 billion

## Sify's Solution for Network Connectivity

Key factors for this solution were resiliency, consistency, security, manageability, and cost.

ICICI's branch network operates over two diverse MPLS Clouds and is managed by ICICI and their various Service Providers. These branches hub to ICICI's on prem DC site. Sify in its design needed to ensure no single point of failure and facility level diversity.

To address high resiliency by ensuring maximum uptime for the links, Sify Proposed connecting the DC site with two lastmiles, one with Sify and the other with a different Service Provider, to ensure Service Provider level Diversity. These are 10G lastmiles. For high resiliency at the AWS end, 2x10G Direct Connect circuits were proposed -Sify Rabale and GPX Mumbai (for the testing phase), however during the final implementation GPX was replaced by STT Hyderabad to provide a more economical solution for the customer as intracity connectivity is cheaper than intercity connectivity.

To facilitate connectivity across all workloads via a Single Direct Connect, Transit VPC services by AWS were recommended and subscribed. This ensured lower management and monitoring overheads for the Network setup.

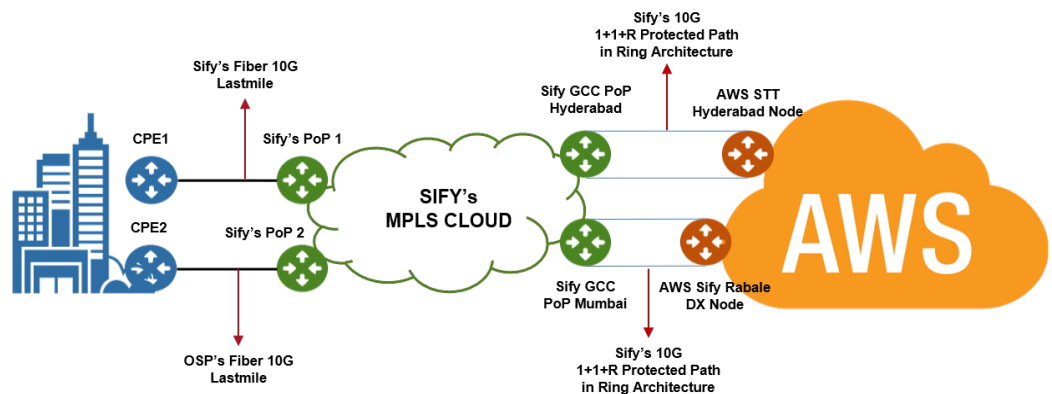
Transit VPC by AWS helped in operating the workloads in silos with clearly defined user management access, which assured limited scope of data and access breach.

Public VIF services, if any (eg: S3 access through AWS DX) provisioned a separate virtual interface at the Hyderabad DC CE with NAT configuration.

Key service design features:

1. Availability Uptime – above 99.95%
2. Layer 3 MPLS Network – highly protected private networks.
3. Compliant with RBI guidelines of security and data transfer.
4. High Resiliency with no single point of failure.
5. Last mile supported by Jumbo Frame.

The Architecture Diagram below represents a high-level Design of the final Network Design deployed for ICICI Lombard.



### Service Design Elements:

1. Layer 1 Protected Fiber paths are built between the Sify Edge and AWS Edge Routers.
2. BGP Protocols are configured between the AWS Edge and Sify Edge Routers that manage the Auto-failover for the customer setup.
3. The two blue lines between the Sify GCC PoPs and AWS Nodes in Mumbai and Hyderabad, represent the Protection Paths between the Sify PoPs and AWS Edge Nodes.
4. The Cross connect for the Dedicated Direct Connect between the AWS rack and Sify Rack in the facility is a single cable and should not be confused with the Blue lines indicated above.
5. In case the reachability is via one AWS Node, the solution will automatically failover to the second AWS Direct Connect Node.



### **Phase 1: Concept Test**

As these were highly critical workloads for ICICI, they initiated a concept testing with only migrating a few instances to AWS. They subscribed for a **1Gbps AWS Dedicated Direct Connect** link at Sify Rabale and GPX Mumbai. This setup was duly tested and observed for a time span of 18 months.

Post the successful completion of the Testing Phase, ICICI moved forward with the full migration of their Business Portal migration.

### **Phase 2: Final Direct Connect Setup**

The final setup (indicated in the diagram above), was deployed with a bandwidth of **10Gbps for AWS Dedicated Direct Connect**. In this setup GPX DX Node was moved to STT Hyderabad to match the Customer's budget expectations.

### **Result and Benefits**

The solution deployed for ICICI helped achieve the following objectives:

1. Successful Migration of their 200+ application workloads to AWS.
2. Highly secure, performance deterministic network between their on-prem Datacenter and AWS workloads without a single point of failure with an uptime of higher than or equal to 99.95%.
3. Ease of Network Management with AWS Transit VPC services consolidating their Direct Connect connections and Sify's Managed services managing and monitoring the link and network configurations.
4. Protected Layer 3 Routing over Sify's MPLS Backbone with a network latency under 25ms.

ICICI Lombard's Business Portal is now successfully running with AWS, that hosts over 200 applications that are accessed by their Business Agents to manage the end user's Service Lifecycle with ICICI Lombard General Insurance.

## **Sify Technologies**

Sify Technologies, a Fortune 500 India company, is India's most comprehensive ICT service and solution provider, offering capabilities focused on cloud, data centre, networks, digital services, security, and systems integration. Operating one of India's largest MPLS networks, Sify owns 10 data centres and has another 48 interconnected data centres. Its network spans more than 3,100 points of presence covering more than 1,600 cities. With its Cloud@core portfolio of services, Sify is helping customers pursue their digital ambition with greater agility, flexibility, and choice.

