'A Move To The Future': How ACC helped SBI General Insurance get future-ready with AWS cloud

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Summary

With a vision to become the most trusted general insurer for a transforming India and with a mission to provide simple and innovative general insurance solutions, be responsive to customers' needs and build a sustainable business for the future, SBI General Insurance understood how data can grow exponentially and infrastructure to support this growth can be cost-effectively procured on the public cloud. Their goal was to get future-ready seamlessly, cost effectively and most importantly without disrupting the present.

About SBI General Insurance

SBI General Insurance offers a wide range of general insurance products. The company offers a complete suite of products ranging from Motor, Health, Personal Accident, Travel and Home Insurance in the retail space and products like Aviation, Fire, Marine, Package, Construction & Engineering and Liability Insurance in the commercial space. Today, SBI General's Distribution family includes over 21,000 IRDAI certified employees including the State Bank Group employees, and over 8,000 Agents to make insurance easily available even in the remote areas of the country. SBI General Insurance has established its presence in over 23000 branches of State Bank Group and over 5500 Regional Rural Banks (RRBs). The company's current geographical exposure covers 110+ cities pan India with a presence of another 350+ locations through satellite resources.

Challenge

SBI General Insurance's objective was to setup and modernize their Microsoft Workloads in the cloud. The challenges they were facing with an on-premises data center were:

1. Scale with demand without having to worry managing the infrastructure. Scalability was a challenge SBI General Insurance faced with their existing infrastructure.
2. Inability to quickly deploy infrastructure when needed. Quick turnaround time was very important for SBI General Insurance's future plans and knew their data center didn't come with that agility in procurement and provisioning.
3. Cost was a crucial factor and they wanted to be able to scale with demand yet keep the costs of scalability down.
4. Security is crucial to every operation. For SBI General Insurance it was doubly so.

Why AWS and Why ACC?

ACC had successful Microsoft Workloads migrations from the Banking and Financial Services sector under its belt. Being an AWS Financial Services Competency partner and equipped with certified personnel in AWS, Windows and Linux, ACC became a preferred choice of recommendation from AWS as well.

SBI General Insurance decided to go with ACC and continue to do so even today.

Solution

At first, interviews with application owners and relevant stakeholders along with existing application documentation helped get a clear understanding of the infrastructure required to support SBIGI's Microsoft Workload. We decided on the CIDR range, number and family of EC2's required for web and application servers, type and size of the EBS volumes and finally specifications for RDS as their database solution.

Leveraging AWS Landing Zone, separate AWS accounts were created for Shared Services, POC, UAT, Pre-Prod and Production. These were SBIGI's administration, development, testing and production environments respectively. Service Control Policies were put in place for managing permissions in the organization. With AWS Identity and Access Management (IAM) service, we created groups, users with cross-account roles and attached policies granting only the required least privileges in accordance with AWS' Security best practices. Additionally, AWS CloudTrail was enabled for governance, compliance and auditing and all logs were stored centrally in a separate AWS Logs account.

Amazon VPC's were created in all accounts after calculating the IP ranges from the agreed CIDR block. SBIGI's UAT, Shared Service and Production accounts were setup with two VPC's; one private and one public. The private VPC's in their private subnets housed the application and database servers which were the critical resources with no access to the public Internet. The web servers were placed in the public subnets of the public VPC's as per SBIGI's security requirements. For high availability, fault tolerance and enhanced security, we distributed the architecture across multiple availability zones as well as placed Internal Load Balancers for resources in the private subnet. Connectivity between VPC's, SBIGI's on-premises Data Center and their separate on-premises Disaster Recovery Center were established using AWS Transit Gateway.

Amazon EC's with Windows Server 2016 Datacenter edition were used for the web and application servers while RDS with MS SQL Server Standard edition was leveraged for SBIGI's database solution. A Check Point firewall and two AWS Direct Connects were setup where one was from SBIGI's Data Center to AWS and the other from their Disaster Recovery center to AWS. From a security perspective, traffic from SBIGI's data center or disaster recovery center would have to go through the Check Point firewall. Traffic from the Internet would first go through the AWS WAF, then on to an external Load Balancer that was equipped with a TLS

1.2 encrypted SSL certificate, managed by the AWS Certificate Manager. From there traffic flows through the Check Point firewall and then to an internal Load Balancer and finally to the servers in the private subnets. Amazon S3 and AWS Auto Scaling were used for some applications to ensure the underlying resources scale effortlessly with demand and without the hassle of having to manage the hardware. This tackled SBIGI's challenge of scalability and quick turnaround time in infrastructure deployment.

AWS Backup is used for automated backups, AWS Systems Manager is used for patching and upgrading Linux servers while WSUS patching servers hosted on SBIGI's on-premises data center are used for Windows servers. Amazon GuardDuty and AWS Personal Health Dashboard are used for analyzing logs. Data at rest is encrypted for Amazon S3, Amazon RDS and Amazon EBS with server-side encryption using AWS KMS.

Service Used

Amazon RDS, AWS IAM, Amazon CloudWatch, AWS CloudTrail, AWS Personal Health Dashboard, AWS Backup, AWS KMS, AWS Systems Manager, Amazon EC2, Amazon EBS, Amazon S3, Amazon VPC, AWS Lambda, Amazon GuardDuty, AWS Config, Amazon Inspector, Elastic Load Balancing, AWS WAF and AWS Certificate Manager.

Results and Benefits

With AWS, we not only proved to SBIGI that an on-premises data center can be seamlessly integrated into the AWS Cloud but also addressed every challenge they had with their existing infrastructure. **Our solution ensured that SBIGI got scalability and ease of infrastructure deployment by reducing time taken for procurement and provisioning of hardware.**

Cost being an important metric was optimized and is an on-going bi-weekly exercise. SBIGI started initially with the pay-as-you-go model on the AWS Cloud.After monitoring usage for a couple of months, we got them on to the EC2 and Compute Savings Plan which reduced their compute costs by 25%. Our on-going support ensures that they are always on the right pricing plan, their storage costsare minimized as well as their resources are right-sized for maximum utilization. We have converted all of their EBS volumes from GP2 to GP3, have reserved RDSinstances for huge costs savings as well as opted for the Graviton processors for reliability, speed and additional costs savings.

About ACC

Applied Cloud Computing (ACC) is an advanced AWS consulting partner. ACC accelerates end-to-end cloud adoption with the best implementation services, software and processes available. ACC's comprehensive framework for cloud adoption and dedicated software development capabilities help clients achieve business results faster, no matter where they are in their cloud transformation.