

Choice Solutions Case Study

IT Relocation For SBI Funds Management (SBI FM) Private Limited

Project Preface

Inside This Case Study

Project Preface	1
Challenges	2
Choice Solutions Role	2
Move Phases	3
Benefits	4
About Choice Solutions	5

Choice Solutions Ltd. was awarded the contract by SBI Funds Management Private Limited to move their IT hardware from the DR site in Chennai to a new rented facility in Hyderabad and bring up all equipment and applications.

An Overview of SBI Funds Management Private Ltd.

SBI Funds Management Private Limited (also referred to as “SBIFM”) is a premier Asset Management Company in India and has been managing all the Schemes of SBI Mutual Fund, established in 1987. The Corporate Office of SBIFM is located at 191, Maker Towers “E”, Cuffe Parade, Mumbai. SBIFM has a nationwide network of branch offices.

Project Background and Objective

SBI Mutual Fund (SBIMF) has a product datacenter in Mumbai and a Disaster Recovery Site in Chennai. SBIFM has planned to shift their IT hardware from their internal datacenter in Chennai to a hosted location (CtrlS) in Hyderabad.

Competition

Several SI’s such as HCL and Wipro were also bidding for the project. Choice Solutions got the project due to their better relations and a history of successful assignments done for the client.

Work Scope

The DR site in Chennai had servers (running Sun Solaris and Windows operating systems) and NAS (Network Attached Storage) storage array from Netapp.

The NAS was used for data consolidation of different servers and user’s data. The customer uses Asynchronous replication of the snapshot is performed on a daily basis through snapmirror technology from our primary site in Mumbai to our DR site in Chennai.

The connectivity between the primary site at Cuffe Parade Mumbai to our DR site in Chennai is through leased line. Oracle replication happens between primary site and DR sites was done using Oracle DataGuard software.

Challenges

The key challenge was to stick to the 48-hour time window between the shutdown of the equipment in Chennai and bringing up all applications and services in Hyderabad. There were several variables which could easily take more than 48 hours such as:-

1. Dependence on the air-carrier to physically move the equipment in a few hours
2. Correct network port configuration in Hyderabad for the equipment to be able to communicate on the network
3. Firewall ports open to Mumbai for replication and logins
4. Availability of skills from the datacenter provider to troubleshoot issues with power or network

The relocation involved several IT tasks such as Oracle Dataguard, Unix and Netapp Snapmirror setup

There were several unknowns and problems did happen. However the team from Choice Solutions were able to successfully surmount and resolve all issues in real-time during the move and post-move phases.

Choice Solutions Role

The project goal for Choice Solutions was to shift the DR assets from Chennai to Hyderabad and restore the Oracle replication and snap mirror replication between the primary site and the new DR site in Hyderabad. Our role included the following

1. Disable replication from Mumbai to Chennai (data replication using Snapmirror and Oracle DataGuard)
2. Shutdown servers and storage arrays in Chennai
3. Unrack the Hardware
4. Move the hardware from Chennai to Ctrl-S in Hyderabad by air.
5. Test the hardware in the staging area in Hyderabad
6. Move the servers and storage to the datacenter
7. Rack and connect the hardware to power and network
8. Successfully bootup the operating systems (Sun Solaris and Windows)
9. Configure new IP and network information so that the servers and storage can communicate on the network
10. Open the right ports on the CtrlS firewalls/routers for connectivity and replication from Mumbai
11. Bring up Oracle database and DataGuard
12. Setup Snapmirror (Netapp's data replication software)
13. Configure data replication from Mumbai to Hyderabad

The Move Phases

Choice Solutions had a team working for all phases. The project execution can be divided into three phases

1. Pre Move Phase

During the pre-move, we had a few site surveys at the customer locations to inspect for site-readiness. In Chennai we made a list of all equipment to be moved, the rack space required, the power requirements, etc. In Hyderabad, there were several things to be done to prepare the site for the new IT hardware:

- we made sure the proper network ports were open to communicate with the servers and storage in Mumbai.
- Inspected and got the proper rack space
- Got the proper power receptacles required for the incoming IT hardware

2. Move Phase in Chennai

During the move phase in Chennai, we configured the network parameters for the servers to be what was expected in Hyderabad. The Oracle database and DataGuard had to be shutdown gracefully. We halted the servers and storage arrays and disconnected those from the network and power source. We unracked and boxed the equipment. We had the proper insurance for the equipment. We used a freight air-carrier to move the equipment to Hyderabad

3. Move Phase in Hyderabad

In Hyderabad, we went through several steps.

- The equipment was powered on and tested in the staging room for a few hours, then shutdown and moved to the datacenter
- We racked the equipment and connected those to the power and network
- Successfully booted the servers and storage arrays on the network
- We configured the new network parameters such as gateway, IP address, subnet mask and network number

4. Post Move Phase

This phase required bringing up the database and applications. The NAS array was configured once again to communicate with the storage array in Mumbai using Snapmirror. We started the storage replication between the 2 arrays. Oracle database and instances were started on all the servers. Oracle data replication using DataGuard was successfully configured to replicate data from Mumbai.

But due to firewall policies and Mac address mappings at Hyderabad DR side, storage replications was not happening. Due to this Mac address mapping with network devices at Hyderabad DR site, data packets traveling in one direction from Mumbai to Hyderabad only. But once traffic initiated from Hyderabad by storage unit, due to blockage of new Mac address packets were dropping at Hyderabad DR gateway itself without entering into the Mumbai Datacenter even though ports open in firewall. After we identified and rectified the problem, storage replication started automatically.

The Benefits

The servers and data critical to SBI FM's operations were moved safely to the new location without any hassle. The customer could rely on Choice Solutions with all phases of the move.

The Choice Solutions team was always at hand to give all the relevant updates about the relocation to the client and even helped the client with several out-of-scope aspects.

Choice Solutions helped the client with other services related to the relocation, these include meeting all the power requirements at the new location in Hyderabad, provide the network ports that are meant to be used at the Hyderabad datacenter and also providing help in halting the servers in Chennai.

Benefits to Choice Solutions Ltd.

Choice Solutions had executed a few IT equipment relocation projects earlier, however the new aspect in this project was that several IT tasks were in Choice Solution work scope. This included bring up the OSes, network setup on the servers, Oracle and DataGuard configuration, Netapp snapmirror setup and replication from Mumbai to Hyderabad.

The project required members from several teams such as network, datacenter, OS, servers, storage and database. The execution was a remarkable demonstration of the individual skills and contribution of all members and exemplary exhibition of team spirit.

About Choice Solutions

Established in 1991 Choice Solutions Ltd. is a leading IT and Facilities solutions provider. Choice Solutions Ltd. business comprises of Six different practices, namely

IMS

- Desktop, Server, Network, Storage, Support, OS, Assets, Apps, Non IT
- Hardware - A-Add, M-Modify, I-Install, C-Change, R-Repair
- Assets, Security, Software Distribution, Upgrades

Networking

- Packaged Services Monitoring & Management
- Products, Security, Design, Deploy, Maintain
- Auditing & Compliance, SOC

Datacenter

- DC Audit, Monitor & Manage, Training
- Assess, Design, Built, Deploy, Disaster Recovery

Consulting

- Business Consulting, CIO & Technology Services, Physical Security, Power Devices, IT Consulting
- DC Consulting, ERP, CRM & Custom Apps

Cloud Computing

- Cold Site – Backup, Disaster Recovery
- Hot Site – HaaS, Software, Manage
- Public Cloud, Private Cloud, Hybrid Cloud
- CaaS, License Software, IaaS
- Disaster Recovery

Power

- Power Audit, Equipment Management
- Physical Security, Power Devices
- Power Saving Devices
- Design & Audit
- Renewable Energy Products