

Business Continuity Plan and Disaster Recovery

Scenario

Today Dec 12, 2020 at 10:00 AM BST Saturday (Weekly Holiday), one of the Local Well-known Organization Data Center (DC) service interrupted due to fire and primary Data center completely out of Service. Primary data center is High Available (HA) data center. One Team is start working to containment the impact of Data center and working to assess the damage, but may take week to fully assess the damage and recover the Data center to previous state.

Secondary data Center (DR site) located at 70 Km distance from primary DC and newly built. DR site have 25% capacity in terms of Backup & Restore capability. Disaster Recovery site called Warm site and the Infrastructure ready with limited capacity. Initial management plan and approval was only up the mission critical service. The mission critical services are classified as “HIGH” and their details are documented in Annex-1. Beside that management want to selected three “MEDIUM” classified application as well also documented in Annex-1. Service level Agreement (SLA) and business Need also mentioned in Annex-1 and team need to follow.

Just after the Disaster in Primary DC, Crisis Management Team declared the Disaster within 1 hour and approval information was shred and distributed as per communication management plan to all relevant team to participate the disaster recovery process.

Crisis management, technical teams including Server, storage, network, database, application, backup, network security, helpdesk, service management, security, organization spoke person and all other relevant personal join Major Incident management (MIM) meeting through out of band online meeting at 11:00AM and review the Disaster recovery plan. But unfortunately the recovery plan didn't review for last one year and the only SOP for the disaster recovery procedure in primary data not possible to recover. Management provide the instruction and approval to start the full recovery in Disaster Recovery site from 12:00PM to next 48 hours. But Business critical classified as “HIGH” need to up by next 24 hours, 12:00 PM (12:00 Hours) December 13, 2020.

Each application data details are available in Annex-1. Each application last monthly full backup (Month of November) are present in DR site in Vault. Tape details are also listed in Annex-1. Business team confirm that to management and technical team that November full backup is ok to restore as per contract in such disaster previous month full backup is ok.

Technical team prepared one recovery complete plan (Annex-1) for the team alignment.

Few common situation and some prediction rules are set as below by technical team:

1. DR site Network & SAN connectivity readiness will take 2 hours
2. Each VM and network readiness will take 30 min
3. Storage allocation will take 30 min
4. DB health check will take 30 min (If require, follow Annex-1)
5. Application level health check will take 30 min (If Require, Follow Annex-1)
6. Backup server/client version Installation will need 30 min
7. Data restoration speed 40 GB/hour for more than 100,000 files (Approx.)
8. Data restoration speed 60 GB/hour for less than 100,000 files (Approx.)
9. Two Tape drive are available and in good condition to recover data
10. No Disk backup available, disk backup only happened in primary DC site
11. Application dependency is important parameter in Annex-1, but also need to consider practical situation like business classification (column D) and restore time (Column K)
12. Production the application means total recovery time (Consider Column M)
13. DR site will use the same IP and AD structure like primary Data Center
14. Team need to consider priority, best possible solution of data recovery with time and tape drive availability, consider ideal time to do parallel work which possible.

General Information when consider recovery operations:

1. VM and network readiness, Storage allocation, Backup agent Installation time may consider in parallel in many cases
2. Some cases parallel activity not possible as well (please use common sense)
3. 2 hour's network readiness need to consider for first 2 hours of recovery process start
4. Team need to remember only two physical tape drive use for the total recovery of data
5. For total recovery time (Column M) team need to consider full recovery (end to end) including network readiness, VM readiness, storage allocation, restore data, DB check, application check etc. which applicable. Also please follow column N to understand the dependency. May not all cases all parameter is required. Please also consider parallel work or operations where possible.
6. Column M value calculate method: start calculate time from 12:00 PM (12:00 Hrs) and production up time will when the application is up in production and serve the client. For example, if application X is possible to up in 5 PM (or 17:00) on same date the M column value is 5 hours (from 12:00 PM to 5PM or from 12:00 to 17:00) and then in the same tape drive another application Y will take another 5 hours to up in production (17:00 to 22:00). So, in that case application Y value in M column is 10 Hours (First 5 hours for application X and 5 hours for application Y) as same tape drive is used.

ANNEX-1

SL (A)	Application Name (B)	IP Address (C)	Business Priority & Classification (D)	Backup Data Amount (GB) (E)	No of Files in Backup (Approx) (F)	Backup Time (Hours) (G)	Backup Tape (H)	DB Check Dependancy (I)	Application Check Required (J)	Data Restore Time from Tape (Hours) (K)	SLA (in Hours) (L)	After 12:00PM, how many hours need to Up the Application in Production (Hours) (M)	Team Involve To Restore (N)	Application Dependency (O)	Application Recovery sequence (01 to 08) (P)
1	Billingapp	10.x.x.10	High	200	5 million	5	DR008L5	Yes	Yes	1	24	2	Billing& Rating Team+ DB Admin+Backup admin+ Business Owner	Mediation, Rating, AD	3
2	Ratingapp	10.x.x.11	High	240	5 Million	5	DR009L5	Yes	Yes	4	24	5	Billing& Rating Team+ DB Admin+Backup admin+ Business Owner	Mediation, AD	6
3	Mediation	10.x.x.15	High	640	10 Million	10	DR011L5	Yes	Yes	7	24	8	Data Warehouse App Team+DB Admin+ Backup Admin	Raw CDR from MSC. MSC can retain CDR for 24 hours, AD	9
4	File Server	10.x.x.18	Medium	1000	1 Million	10	DR019L5	No	Yes	10	48	11	Windows Admin + Backup team	AD	12
5	Email server	10.x.x.19	Medium	120	3 million	1.5	DR015L5	No	No	13	48	14	Windows Admin + Backup team	AD	15
6	Backup Application	10.x.x.30	Medium	30	40,000	0.5	DR003L5	Yes	Yes	16	48	17	Backup Team	AD	18
7	ERP	10.x.x.14	Medium	200	4 million	5	DR016L5	Yes	Yes	19	48	20	ERP App Team+DB Admin+ Backup Admin	AD	21
8	Active Directory	10.x.x.9	Mediuam	30	47,000	0.5	DR001L5	No	Yes	22	48	23	Windows Admin + Backup team	N/A	24

