Best Practices in Developing an IT Disaster Recovery Plan

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PRESENTER PROFILE

- Vijaykumar Kulkarni
  Assistant General Manager - Product Management in Netmagic Solutions, an NTT Communications group company and India’s only datacenter infrastructure lifecycle management (DILM) solution

- Experience of over 16 years


- Spanning sectors such as Banking, Financial Services, Stock Brokerage and Telecommunications

- A engineer with a specialization in Electronics and a Masters degree in Information Management

- Also armed with a multitude of professional certifications
What we will discuss …

- DR Concepts
- The Six R’s of Recovery
- Major plan components
- DR Teams
- Contents of an DR Plan
- About Netmagic
- Case study
DR CONCEPTS
DR Concepts

DR at a Glance

- Establish Need & PM
- MCAs
- RPO / RTO
- Strategy
- Testing & Maintenance
- DRP / BCP
THE 6 RS OF RECOVERY
The 6 Rs of Recovery | Response to Disaster till Recovery

| REDUCE unfavorable events | RESPOND |
| Disaster Event | Incident Management |
| Declaration |

| TEAM MOBILIZATION |
| Travel to Recovery Centre |

| RESTORE System |
| Restore Communication |

| RE-SYNC Data |

| RESUME Business |
| RETURN Home |

Recovery Time (Hours)
The 6 Rs of Recovery | Response to Disaster till Recovery

RESPONSE
1. How is a problem reported?
2. Does the above has the contact number of the DR Coordinator
3. DR Coordinator to contact BCP Management Team to report problem
4. Slower response will affect the recovery time
5. Activate recovery centre to be on “Stand-by” mode

Incident Management
- Assess
- Inform your CEO

- Get business units to agree to declare disaster, else contact recovery centre to “Stand-down”

Declaration
- Upon decision to declare a disaster, the designated authorized officer will contact the recovery centre about declaring a disaster
- Check and confirm subscribed resources are made available
- Specialized DR Team to be on-site standby
- Confirm time to access the recovery centre
The 6 Rs of Recovery | Response to Disaster till Recovery

Team Mobilization
- Refer to DR Plan
- Calling Tree
- Activate software vendors
- Inform relevant parties
- Activate offsite storage

Travel to Recovery Centre
- All team members need to be familiar with the location of the recovery centre
- For overseas support staff

Restore Systems
1. Take over systems from recovery centre
2. Verify all hardware are correct
3. Restore systems as per DR Plan
4. Application test checklist
5. Audit system
6. Prepare system for production
The 6 Rs of Recovery | Response to Disaster till Recovery

**Restore Communication**
1. Switch over to pre-arranged communications network
2. Check for impact due to difference of communication usage
3. Reconfigure router
4. Implement firewall policy
5. Setup DR network as per DRP

**RE-SYNC Data**
1. Input data captured during manual business operations before RESUME Business phase
2. Perform audit check of data entered

**RESUME Business**
1. Test critical components of each applications as per DRP
2. Development/ Application Team verifies that the correct data are restored
3. Perform Audit
   • Internal auditors audit the readiness & integrity of data & security
4. Authorize data to be released for production
RETURN Home

1. Prepare production (home) site

2. Before cutover to home site from recovery centre, conduct a parallel run to ensure production site system is stabilized

3. Request recovery centre to standby for at least 1 day after cutover to serve as backup
MAJOR PLAN COMPONENTS
Major Plan Components

- Reduce
- Respond
- Recover & Re-sync
- Resume & Return

Pre-empt

Timeline:

- Emergency Response: Within minutes or hours
- Recover & Re-sync: Within hours or days
- Resume & Return: Within weeks to months

Disaster Life Cycle

Crisis Management

BC & DR Plan
DR TEAMS
Disaster Recovery Teams

Types of Teams

- Management Teams
  - Steering Committee
  - Crisis Management Team
- Disaster Assessment Team
  - DRP Manager/ Coordinator
- Disaster Response and Recovery Teams
  - Network Team
  - Server Team
  - Application Teams
  - Storage Team, etc
- Salvage Team
- Emergency Response Teams
- Other Ancillary Teams
Team Roles and Responsibilities

- **Crisis Management Team (CMT)**
  - Overall management direction
  - Approve the required budgets, and
  - Management reviews

- **Disaster Assessment Team (DAT)**
  - First line of officials who will assess the impact,
  - Provide direction and response during a disaster situation

- **Disaster Response & Recovery Team (DRRT)**
  - ‘Action’ the contingency strategies and react during the disaster.
  - Execute the steps documented in the DR Plan and
  - Update to the DR Manager on the status of recovery
Team Roles and Responsibilities

- **DR Manager / Coordinator**
  - Oversee mobilization of IT resources
  - Ensure alternate site is ready to receive Recovery teams and Users
  - Monitors progress of recovery and reports upwards to management
  - Shields Recovery Teams from external interruptions

- **Emergency Response Team**
  - Safety and evacuation teams
  - First responders to emergency
CONTENTS OF AN IT DR PLAN
Contents of an IT DR Plan

About the document
1. Approvals and revision history
2. Distribution control

Introduction
1. Purpose and scope of the plan
2. Updating the plan
3. Common definitions
4. Types of losses

About Organization
1. Overview
2. Primary and DR IT infrastructure
3. RTO and RPO requirements
4. Application Environment
5. Replication overview
6. Backup
7. Disaster Recovery Framework
8. Disaster Scenarios and Strategy
Contents of an IT DR Plan

Disaster Recovery Plan
1. Overview
2. IT DR Organization Chart
3. IT DR Team Roles and Responsibilities
4. Key contact details

DR Site Activation and Return Processes
1. Disaster declaration and activation process
2. Crisis notification call tree
3. Disaster response, resume and return

DR Drill Plan Overview
1. Objective
2. Drill Strategy
3. Success Criteria
4. IT DR drill yearly calendar

DR Program Management
1. Change Management
2. Plan Reviews
3. Training and awareness

Acceptance of the document
Contents of an IT DR Plan

Appendix

1. Hardware Inventory of production and DR site
2. Data replication status report
3. Vendor support and contact details
   1. Contact details
   2. Escalation matrix
   3. SLA management
4. List of key documents at off-site
5. Revision information
Best Practice Guidelines for DR Plans

- General guidelines for DR Plans:
  - All recovery procedures should be written in simple language
  - Recovery procedures should not be dependent upon any particular individual or group for success
  - The plan should be designed so that decisions and activation can be handled by personnel other than those familiar within these tasks

- All recovery procedures should be complete and tested

- At least one copy of the DR Plan must be stored off-site in a secure location
ABOUT NETMAGIC
The Story so far …

Employees: 650+

Customers: 1200+

Datacenters: 7 + 2 Upcoming

Growth: 34% CAGR over last 3 years

Part of NTT Communications (Originally PE Funded (Nexus Venture Partners, Fidelity, Nokia Growth Partners, Cisco Systems))
**Netmagic Services Portfolio**

- **DATACENTER SERVICES**
  - Collocation
  - Bandwidth
  - Remote Hand Support

- **HOSTED IT INFRASTRUCTURE**
  - Dedicated Hosting
  - Pre-provisioned Servers
  - Managed Firewall
  - Load Balancing
  - Backup And Storage
  - Disaster Recovery
  - DRaaS
  - Datacenter Consolidation
  - Datacenter Migration

- **CLOUD SERVICES**
  - IaaS based Public/Private/Hybrid Cloud
  - DR On Cloud
  - Cloud Based Object Storage

- **MANAGED SERVICES**
  - 24x7 Infrastructure Monitoring:
    - OS, DB, Network & App
  - 24x7 Infrastructure Management:
    - OS, DB and Network
  - WebControl
  - CNAM
  - VAPT
  - Appsecure
  - Datacenter Consolidation
  - Email Security
  - Datacenter Migration
  - MDDoS
  - SOC
  - SSL Certification
  - Managed IPS/UTM

- **APPLICATION**
  - Hosted Exchange
  - Linux Email
  - App Migration
  - Managed Application Hosting;
    - SAP Basis, Middleware Applications, Trading Applications
Netmagic DR Services Tiers

DR Management and Drills

DR Plan Development & Implementation

DR Management

DR Implementation

DR Solutions

DR Infra

Physical Infra

Hot / Warm Physical Site

DR on Private Cloud

DR on Public Cloud

DR Within Public Cloud

DR as a Service

Replication (CA ArcServe)

DR (Sanovi)

Replication (Native Tools)

Replication (CA ArcServe)

DR (Sanovi)

Replication (CA ArcServe)

DR (SRM)

Replication (CA ArcServe)

DR (SRM)

DR (Sanovi)

DR (SRM)
# Our Approach

## DR SCOPING
- Critical Apps/ DB’s
- Exp. RPO/RTO
- DR Site Location
- Resources
- DR Capacity

## SOLUTION & IMPLEMENTATION
- Data Replication
- High Availability
- DRaaS
- Physical/ Cloud
- DR Planning & Imp.

## PROGRAM MANAGEMENT
- Improve RTO/RPO
- Change Management
- Systemic Failover
- DR Drills
- DR Plan Reviews
**DR Service Delivery**

### Traditional DR Services
1. Database Replication & Monitoring using Native Replication
2. Data Replication and High Availability (HA) Solutions & Monitoring using CA ARCserve RHA Software
3. DR Plan Development and Implementation Service
4. DR Management and Recovery Service
5. DR Drills and Reporting Service

### DR-as-a-Service (DRaaS)- Powered by Sanovi CloudDRM Software Includes:
- a) Data Replication
- b) DR Process Documentation
- c) DR Monitoring & Validation
- d) Recovery Management & Automation
- e) Drill Management & Automation
- f) Periodic Reports

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**DR Infrastructure & Management (Common)**

- Managed Hosting – Hot/ Warm DR Site
- DR Infrastructure Solutions- Physical / Public Cloud / Private Cloud / Hybrid
- Infrastructure Management Services – OS, DB and Network
CASE STUDY
Case Study of a DR Plan Development

1. Walkthrough of the DR Plan Template
2. Identified the names of the DRP Creator, Reviewer, Approver and Distributor List
3. Info gathering of the customer org, IT DR framework and key contact details
4. Referred the solution document and updated the Primary and DR Infrastructure details
5. Define the Failure Scenarios applicable as per customer’s DR objectives
6. Circulated the updated DRP document to the internal teams
7. Technology Leads input details of the recovery steps for each DR System
8. Circulated the draft IT DR Plan to the customer PM
Case Study of a DR Plan Development

8. Conducted workshop with customer teams for aligning the following aspects of the plan to their DR/BCP Framework guidelines:
   a) Formulation of IT DR Organization & Roles and Responsibilities
   b) RA and BIA Findings
   c) Incident Evaluation and Assessment Process
   d) Declaration Process and Authorization
   e) Crisis Notification Process
   f) DR Activation and Return Process
   g) Success Factors for Testing of each Application in the DR Site
   h) IT DR Drill Yearly Calendar

9. Info gathering and revising the DR Plan document
10. Conducted a Tabletop review and fine tune the DRP contents
11. Conducted a debriefing session for customer, key vendors and Netmagic teams
12. Planned for initial DR testing and initiate communications
13. Conduct DR Tests and noted the findings
14. Incorporated the learning and made necessary changes in DRP
15. Submitted for customer approval and obtain a copy
16. Initiated DR program management & site maintenance activities
Learning from the session

- **DR Concepts**: Establish Need, MCA, RPO, RTO, Strategy, DRP and Testing
- **6R’s of Recovery**: Reduce, Respond, Restore, Re-sync, Resume & Return
- **Major Plan Components**: Emergency Response, Crisis Management, Business Continuity and Disaster Recovery Plans
- **DR Teams**: CMT, DAT, DRRT, ST, ERT and Other Ancillary teams
- **Contents of an IT DR Plan**
Questions and Answers
Contact Details

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Your Infrastructure Evolution Partner