



# eDirectory – Disaster Prevention and Recovery

Vasudeva Sarma

20 Apr, 2021



# Agenda

- Possible Causes Of Disasters In eDirectory
- Preventive Measures
- Recovery
- A Few Noteworthy Points



# Possible Causes Of Disasters In eDirectory

- Hardware / Software failure
  1. Switch / Network issues
  2. Power issues
  3. Unknown s/w issues
- DIB corruption
  1. Incorrect restore / repair
  2. Power issues
- Manual errors
  1. Incorrect configuration
  2. Invalid data



## Preventive Measures

- Have all partitions replicated
- Ensure periodic full and incremental backups
- Secure backups physically in external devices
  
- DSMaster server
- Ndsbackup
- Dsbk
  - Cold backup
  - Hot continuous backup
  
- A few methods used, but not advised
  - Server VM snapshots
  - Tar ball archives



## Preventive Measures – How To

- Keep all replicas in a server (DSMaster) or spread in a set of servers (DSMasters)
- Ndsbackup : Is object based, suited for small sized DIB
- Dsbk : Is server based
  - Cold backup – h/w migration
  - Hot backup – with / without RFL



# Recovery

- Make DSMaster the master or Clone from it
- Remove the faulting server that the rest of the replicas can remain functional
- Clone from another server and use in new instance, faster
- Restore isolated, export required objects, import and overwrite
- Check traces, identify faulting data and correct
- Restore cold backup
- Restore hot continuous backup, enable RFL if needed
- Use dsrepair to resolve any issues



## A Few Noteworthy Points

- There are a few other tools which can be used – OES tsands, embox
- NICI data to be backed up too
- RFL to be in different file system than DIB and to be monitored
- Do not overuse dsrepair

### Few scenarios dealt with recently

- Ldif corrupted data
- Cloning EBA enabled server



## Q&A

- If one has EBA enabled then all Master Replicas should be on one server from DR perspective, right?  
No need to have all replicas in the same server.
- You told us not use dsrepair intensively. What are the use cases for dsrepair -U e.g.?  
The facility can be used when attended repairs to be done though it is better to do specific repairs rather than the unattended ones.
- What could be small / large sizes for ndsbackup (in terms of DIB size and object count)  
There is no concrete answer for this. There can be a small no. objects which have data/attribute value which is large in bytes leading to a GB sized DIB. There can be a large no. of objects with data/attribute value which is in a few bytes giving an MB sized DIB.
- What if we have DSfW implemented is DS?  
There could be more to consider while using DSfW rather than basic eDirectory in DR and it is best to refer DSfW/OES guidelines.





## Q&A ...

- AFAIK, ndsbackup is only for Linux - will there be a Windows version?

There are no windows ndsbackup, not in plan as of now and user can make use of DSBK for backup and restore.

- Is it possible to use emBox from a client PC to backup eDirectory?

emBox utilities can be used from a machine which has eDirectory installed. The target of operation could be the same server or a remote one.

The logo graphic consists of a central square with a white-to-blue gradient, surrounded by multiple concentric squares. The squares are offset from each other, creating a 3D, tunnel-like effect. The squares transition from a light blue on the left to a dark blue on the right. The text 'MICRO FOCUS' is overlaid on the right side of the graphic.

MICRO<sup>®</sup>  
FOCUS