Configuring Direct-Connect between a DR Series System and Backup Media Server

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Executive summary

This paper provides general guidance and information about how to set up the Dell DR Series system to directly connect to a backup media server. This paper is a quick reference guide and does not include all DR Series system deployment best practices.

For additional information, see the DR Series system documentation and other data management application best practices whitepapers for your specific DR Series system at:

http://www.dell.com/powervaultmanuals

NOTE: The DR Series System build version and screen shots used for this paper may vary slightly, depending on the version of the DR Series System software version used.

1 Direct connect a DR Series system (with firmware version 2.1 or later) to a backup media server

If the DR Series Appliance has a firmware version of 2.1 or later, you can directly connect this DR Series system to a backup media server by completing the following steps.

1. On the DR Series system, connect all 1Gbps NIC ports to switch.
2. On the DR Series system, connect one single 10Gbps NIC port directly to media server 10Gbps NIC port.
3. On the DR Series Appliance Command Line Interface (CLI), run the following command and reboot the appliance after the command has completed:

   `network --factory_reset --auto_bonding_speed 1G`

   This command enables all 1Gbps NIC ports to form bond0, which will be used for management and replication traffic. After the appliance reboots, this bonded interface needs to be configured with networking. This bonded interface will need to be configured with a default gateway, so the DR Series Appliance can fully function with all network services.

4. Using the DR Series system command line interface (CLI), run the following command to identify which 10Gbps NIC port is used for connecting to the media server:

   `network --blink --nwif ethM --time N`

   This will blink the ethM port for N seconds

5. Using the DR Series system CLI, run the following command to configure the 10Gbps port, so that this port is on the same subnet as the connected 10Gbps port on the media server:

   `network --create_eth --nwif ethM --static --mtu`
   `[MTU_SIZE_sameSubnet_asMediaServer10G]    --ip`
   `[IP_sameSubnet_asMediaServer10G] --netmask`
   `[netMask_samSubnet_asMediaServer10G]       --restart`

6. On the media server, configure the backup storage device using the static IP of the DR Series system 10Gbps interface, and run a test backup to verify the configuration.

2 Direct-connect a DR Series system (with firmware version earlier than 2.1) to a backup media server

If the DR Series system has a firmware version earlier than 2.1, you can still directly connect it to a backup media server. However, you need to be aware of the following considerations for a successful implementation:

- Some network related services on the DR Series system will be impacted. Some of the services will be completely unavailable, while others can be manually set up as a workaround.

- Only a single DR Series system NIC port is supported in a direct-connect configuration. The cable must be connected to a comparable port on the corresponding media server with the same settings for speed, duplex, negotiation, MTU, and so on. Systems may log messages about disconnected NIC ports in the alerts log for the unused ports. Email alerts will be sent that reference the disconnected cables on the unused ports for the DR Series systems that are configured to send email alerts.

- No network interface failover capability is available with this configuration. For higher network backup throughput, the addition and use of a 10Gbps NIC is recommended for both the media server and DR Series system. Cat6a cable is required as a minimum for a 10Gbps connection, and cat6 cable is required as a minimum for a 1Gbps connection. Either straight-through cable or cross-over cable can be used for the connection.

- Dell recommends that you configure the media server as the default gateway for the DR Series system. This configuration provides the DR Series system with the possible ability of acquiring DNS, NTP, Active Directory, and SMTP services available on the network.

  If the media server cannot be configured as a gateway for the DR Series system, the DR Series system may time out on network services, thus causing certain features to fail. See the following list for potential impacts on each of the network services.

  CIFS
  Impact: DR Series Appliance cannot join active directory domains
  Workaround: Configure CIFS local authentication on DR Series Appliance system

  Active directory logon support
  Impact: Cannot leverage single logon across all DR Series Appliance systems on the network
  Workaround: None

  NTP
  Impact: Cannot sync with external time server
  Workaround: Use media server as NTP server, or use DR Series Appliance local system time

DNS
Impact: No name lookup service for DR Series Appliance
Workaround: Edit /etc/hosts file on DR Series Appliance to manually enter name resolution entries
(support engineer needs to be engaged for this action)

SMTP
Impact: Cannot send email alerts
Workaround: None