
DataFax Failover - Disaster Recovery

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DataFax Replication

- Requirements

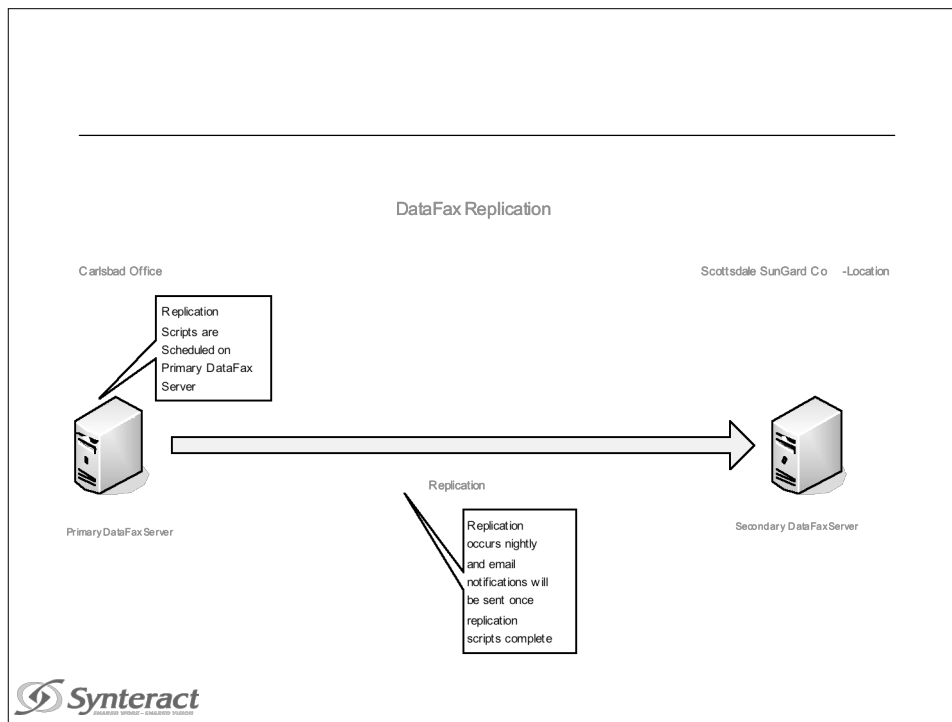
- Primary DataFax Server
 - Server resides at main site in Carlsbad, CA.
 - Both servers running same version of Solaris
 - Server is running DataFax version 3.7-002
 - Fax Service is offloaded to HylaFAX Enterprise
 - Primary Server is the active licensed DataFax server
- Secondary DataFax Server
 - Server resides at Co-Location in Scottsdale, AZ
 - Both servers running same version of Solaris
 - Server is running DataFax version 3.7-002
 - Fax Service is offloaded to HylaFAX Enterprise
 - Secondary Server is an inactive licensed DataFAX server



- Replication Scripts and Cronjobs

- Replication from Primary DataFax Server to Secondary DataFax Server
- Rsync utility is used for replication
- Replicated directories
 - Replication /opt/datafax directory and subdirectories
 - Replication of /home directories
 - Replication of crontabs
 - Replication of Study Directories (Requires disabling studies during replication)
 - Replication of passwd, shadow, and group files
- Cronjobs are scheduled to replicate data nightly
- Logs and email notifications are sent to the responsible persons
- Logs are checked daily to verify successful replication





HylaFAX Enterprise Failover

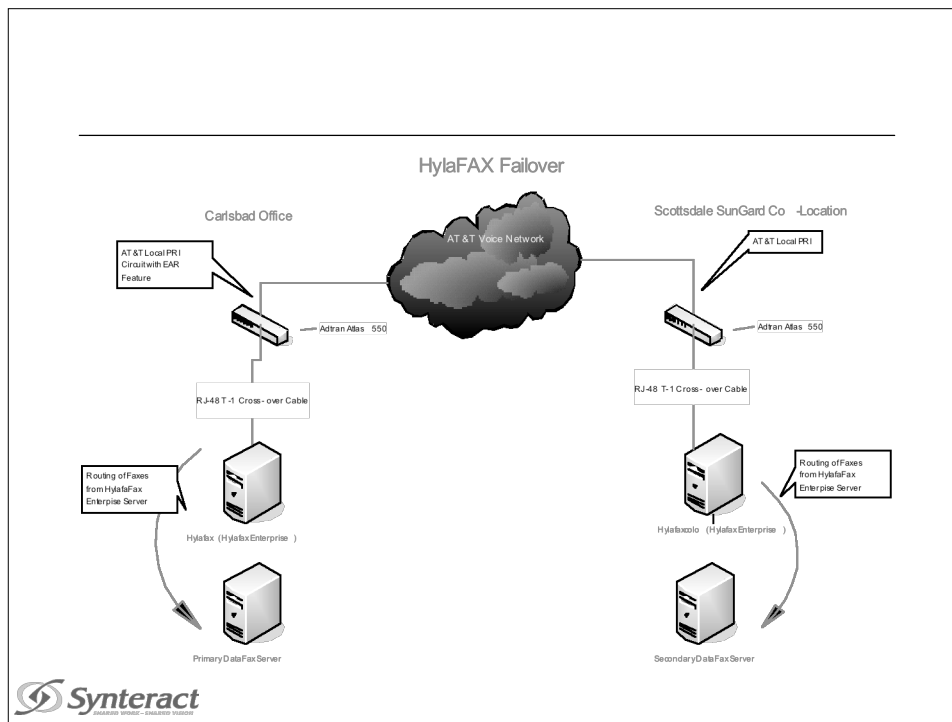
- HylaFAX Enterprise Service
 - Fax service running on separate server from the DataFAX server
 - Fax service can continue to receive faxes if the DataFAX server is down
 - Main site and Co-Location each contain separate HylaFAX Servers
 - Dialogic Brooktrout Fax Board replaces use of analog modems

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- **T1-PRI Circuit Requirements**
 - Local PRI is used with specific number of DID's
 - Adtran Atlas 550 device and T1-PRI circuit is required for fax service
 - EAR (Enhanced Alternate Route) required for failover of PRI circuit
 - T1 crossover cable required between Adtran Brooktrout card



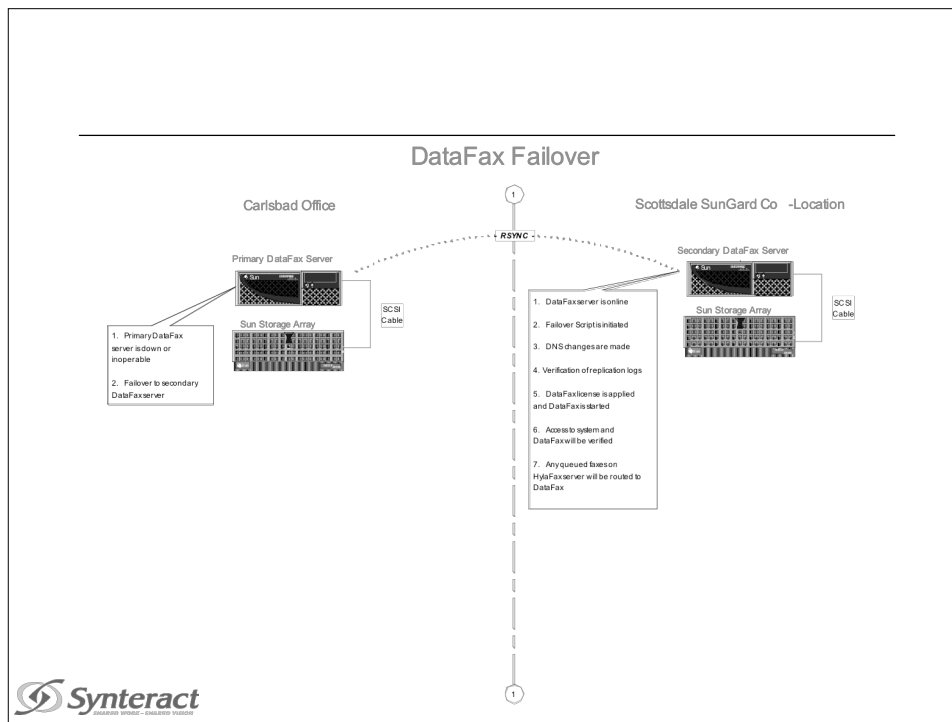
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- **Failover of Circuit**
 - Ring no answer condition encountered, EAR (Enhanced Alternate Route) function is activated.
 - Busy signal will also activate EAR function.
 - Manual failover of circuit can be done with a tech call to Telco provider
 - **Failover of Faxes**
 - When circuit failover is initiated incoming faxes will be routed to HylaFAX server at Co-Location
 - Faxes will queue on HylaFAX server if no DataFax server is available





DataFAX Failover

- **System Failover**
 - If primary DataFAX Server is down this will require a manual failover to the secondary DataFAX Server
 - Failover script will be initiated on secondary DataFAX Server at the Co-Location.
 - Hostname and DNS will be modified on secondary server.
- **Replication Verification**
 - Replication logs will be verified for successful replication
- **DataFAX Startup**
 - License will be applied and DataFAX will be started
 - Access to system and DataFAX studies will be verified
 - Any queued faxes on HylaFAX server will be routed to DataFAX



Validation

- **Server Validation**
 - Server Qualification is performed on primary and secondary DataFAX servers.
 - Server Qualification is performed on primary and secondary HylaFAX servers.
 - Server Qualification will verify that the server is properly installed and functions as expected in the environment of intended operation

• DataFax Validation

- Validation is performed on primary and secondary DataFax servers.
- Validation consists of IQ, OQ, and PQ.
- The DataFax Installation Qualification will ensure that DataFax is properly installed in the environment of intended operation.
- The DataFax Operation Qualification will ensure that DataFax is functioning properly
- The DataFax Performance Qualification will provide documented evidence that the DataFax system used functions as expected within the environment of intended performance



• HylaFAX Validation

- Validation is performed on primary and secondary HylaFAX servers
- Validation consists of IQ, OQ, and PQ.
- The HylaFAX Installation Qualification is covered in the Server Qualification. No additional software installation is required
- The HylaFAX Operation Qualification will ensure that HylaFAX Enterprise channels run properly and that HylaFAX Enterprise can successfully receive, send, and store/queue faxes.
- The HylaFAX Performance Qualification will ensure that the functions of HylaFAX Enterprise and its connectivity with DataFax v3.7-002 on the DataFAX server are performing properly



Disaster Recovery Plan

- **DRP for HylaFAX and DataFax**
 - The Disaster Recovery Plan (DRP) is designed to provide immediate response and subsequent recovery from any unplanned computing service interruption
 - The DRP provides procedures for failing over DataFax and HylaFAX service to the Co-Location
 - The DataFax and HylaFAX Service Failover is defined in the section; DR Procedure – Information Technology
 - The Procedure Step and Execution must be completed in order as specified in the DRP



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- **Testing the DRP**
 - Execution of the DataFax and HylaFax Service Failover is tested annually
 - Execution includes simulated failover of circuit and remote connection to the Co-Location
 - Sending and receiving faxes is tested
 - Data verification is tested
 - Remote (VPN) access to DataFax at the Co-location is tested



Questions?

