OPC Data Distribution System

DART (Data Access, Receive, Transmit)

COPC Meeting

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DART IOC

- Initial Operational Capability (IOC) included the following core capabilities:

  (Note: It is estimated that the DART software is ~70% complete. The current operational considerations have increased DART's scope from the baseline requirements document. New Cyber Security STIGs also had an impact.)

  - Automated SFTP file push and SFTP file retrieval.
  - Automated local file copy (accessing multiple global file systems reducing the number of file transfers).
  - Significantly improved application IA compliance.
  - Web based GUI to manage daily data transfer and DART sub cluster configuration and failover.

DART IOC (features)

- Automatically gathers product tracking and metrics for data volume, timing, and errors that are accessible via a web page. Includes automated long term data tracking.
- Web based “System Health Check” web page monitor for the Computer System Watch Officers.
- Authorization – individual and group role based access to applications and data.
- Full alpha, beta, Ops Software CM and Beta testing configuration.
- Subscription activation, cloning, and data retransmit capabilities.

DART IOC (features)

- Advanced parallel data transfer available for performance tuning (only limited tuning done so far).
- Can be configured and monitored by ‘non-expert’ personnel.
- Does not require specialized “Bulk File Transfer (BFT)” style hardware or data storage subsystems.
- VM based, highly scalable cluster design

DART IOC (features)

- Tracking and configuration the same for all data transfer protocols.
- Data transfer of files greater than 2GB (up to 16 GB tested so far).
- Automated FTP file push and FTP file retrieval (not used operationally yet).
- Automated HTTP and HTTPS file retrieval (not used operationally yet).

DART (Data Access, Receive, Transmit) FOC (Final Operational Capability) Plan

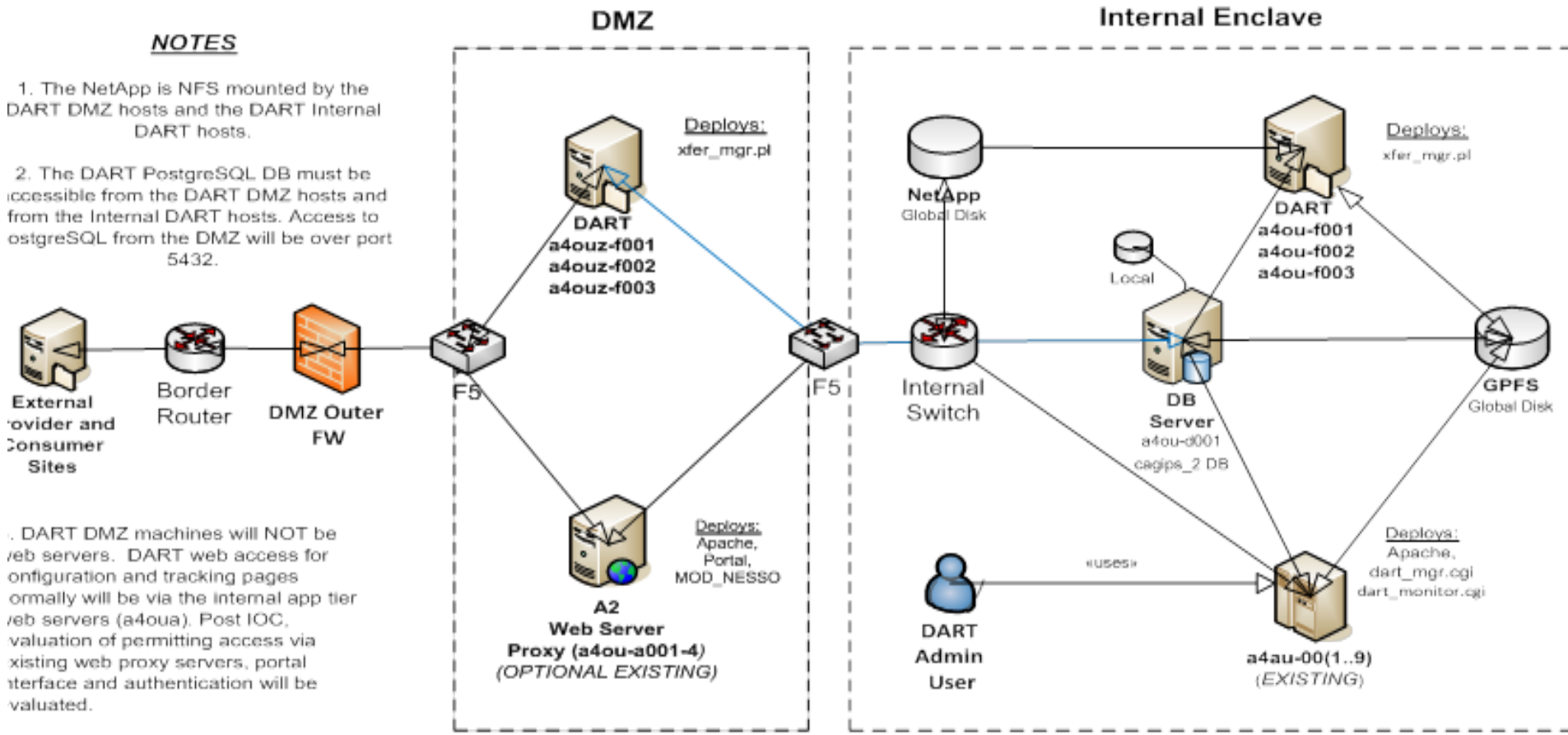
BACKGROUND

Table 1 High-level Summary of DART FOC Tasks

Task	Start	Complete
INGEST		
Convert DPS ingest tables to DART subscriptions (ongoing)	3/1/15	11/15/16
SFTP ingest (U)	9/8/15	6/12/16
HTTP ingest (U)	9/22/15	6/12/16
Set up FTP and SFTP DMZ servers, alpha, beta, ops	9/22/15	1/29/16
FTP ingest (U)	12/8/15	1/25/16
Turn off DPS Ingest	6/16/16	
INTERNAL ROUTING (U)		
Convert internal routing DPS tables to DART subscriptions	12/18/15	7/9/16
Internal Routing to CDS	2/9/16	8/19/16
Internal routing to alpha and beta	2/11/16	8/20/16
Other	2/20/16	8/15/16
Turn off DPS Internal Routing	8/15/16	
EXTERNAL DISTRIBUTION (U)		
Convert DPS tables to DART subscriptions (ongoing)	4/1/15	9/30/16
SFTP (U)	4/15/16	9/15/16
FTP (U)	4/16/16	9/28/16
Turn off DPS External Distribution	9/28/16	
INTERNAL ROUTING (S)		
Set up DART alpha, beta, Ops hosts on high side	1/2/16	8/15/16
Internal Routing from CDS and other	6/15/16	9/3/16
SCIF Feed	7/5/16	10/3/16
Turn off DPS Internal Routing (S)	10/3/16	
On demand data transfer (replace BOH functionality)	7/4/16	8/3/16
Track file end-to-end multiple step file transfers	8/5/16	9/3/16
System tuning and scaling	12/1/15	12/16/16

DART Deployment

A2 UNCLASS – DART Deployment



DRAFT DART Deployment Diagram v0.03
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COPC Impacts

- Summary of the implementation schedule:
  - Estimated dates
  - Phases in the process (external ingest, internal routing, outside distribution, completion)
- Impacts to the COPC partners:
  - Possible Outages that need to be scheduled
  - Changes and coordination with OPC networks and system administrator personnel
  - Potential benefits include addressing, IA, latency, and FTE monitoring

Questions?


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