

The Center for Cyber Defenders

Expanding Computer Security Knowledge

DRS Transfer Manager Queue

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Problem Statement:

The Data Reporting Subservice (DRS) Transfer Manager Queue allows clients to monitor the status of receiving requested data. Keeping track of the transfer is pertinent to business success, but the current tools lack some detailed information. My aim is to add visualizers for the state of each item, each destination, and their rate of successful transfers.

Overview:

- Transfer Manager Queue monitors the dissemination of time critical remote-sensing products to stakeholders and customers
- File queuing and sending based on priority
- Users interested in viewing transfer rate and summary data, which is currently unavailable

Objective:

- Make data summaries readily available with further ability to drill down as needed
- Maintain discrete information from disjoint points in time via database tables
- Organize in understandable manner
- Visualize historical data in time based charts

Approach:

- Brainstormed useful metrics
- Designed layout for tabs in panels
- Derived data from available information stored in database
- Provide summary information for destinations, including throughput, error summaries, and estimated completion time

Results:

- Added a panel to monitor transfers, errors, down time, and historical data
- Panels added for both individual transfers and destination overviews
- Users tasked with monitoring can fix issues as they pop-up with much quicker diagnoses and turn around time

The screenshot displays the DRS Transfer Manager Queue interface. At the top, there are controls for 'Refresh Rate Seconds' (set to 2), 'Suspend Refresh', 'Limit Result Set Size' (set to 50), and 'Show Latest Results' (checked). Below this is a table with columns: Item ID, Item Type, State, Target Entity Name, Target Suffix, Priority, and File Name. The table contains four rows of data.

Item ID	Item Type	State	Target Entity Name	Target Suffix	Priority	File Name
145051	product	transfer	NSITEDVL	2	25.0.0	20090615201324_60_0000145051_FRM.h5
144973	product	transfer	NSITEDVL	2	90.0.0	20090615201324_60_0000144973_FRM.h5
144975	product	transfer	NSITEDVL	2	97.0.0	20090615201324_60_0000144975_FRM.h5
138741	product	transfer	NSITEDVL	2	97.0.0	20110803191940_60_0000138741_FRM.h5

Below the table are two panels for destination selection. The first panel shows 'Destinations' (NSITEDVL 1, NSITEDVL 2) and 'State' (queue, transfer). The second panel shows 'Destinations' (NSITEDVL prod) and 'Items Queued' (104). Both panels include a 'Transfer Rate History' chart and a 'Percent Complete' progress bar.

The interface also includes a 'File Status' tab and a 'Destination Status' tab. The 'File Status' tab shows details for a specific item (ItemID: 012345, Filename: 1381665897_32_991_EXT.h5) with a 'Transfer Rate History' chart, 'Time Started', 'Estimated Time of Arrival', 'Avg. Speed', 'Max Speed', 'Bytes Transferred', 'Bytes Total', and 'Percent Complete' (51%). The 'Destination Status' tab shows details for a destination (Destination: NSITEDVL prod) with 'Items Queued', 'Items Transferring', 'Items Completed', 'Transfer Rate History' chart, 'Time Started', 'Estimated Time of Completion', 'Avg. Speed', 'Max Speed', 'Bytes Transferred', 'Bytes Total', and 'Percent Complete' (30%).