

[Diagnostic] Copy activity failed for racing operations

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Symptoms

Customer met the copy failures when writing data into binary data stores (e.g. Blob/ADLS Gen1/ADLS Gen2), and the error message is like

- **"BadOffsetException"** for ADLS Gen1
- **"Invalid block blob list"** for Blob
- **"LeaseIdMismatch"** or **"LeaseLost"**, **"LeaseNotPresentWithLeaseOperation"** for ADLS Gen2
- "A lease ID was specified, but the lease for the resource has expired" for ADLS Gen2
- "Error occurred when trying to upload a file. It's possible because you have multiple concurrent copy activity runs writing to the same file '{0}'. Please check your ADF configuration. Detailed error message: {1}."
- **UserErrorFileWriteFailedForConcurrentWrite**
- **AzureStorageOperationFailedConcurrentWrite**

Root Cause

Mostly such error is caused by the customer has concurrent copy activity runs that are writing into same files, which would lead to conflict.

If the activity run is happened in recent 30 days, please run below query by provide right activity run id (Note: pipeline run id is not supported).
diag_query_RacingCopyActivityRuns('{activity run id}')
The query will list out all activity run ids that with same subscription and same data sink in related time period, you can if there are any activity runs with same setting as failed activity run. Since folder path, file name are PII data, you will see a hashed value, if two value are the same, their hashed value are the same. Take below racing as an example:

You can see a activity run id was trigger in same time period with same sink folder path, that is potential racing, after check RunPayload column of these two activity run, we found they have same source setting, we can further confirm racing issue.

StartTS	EndTS	ActivityId	FailedRun	Src	Sink	JobStatus	DataFactoryName	PipelineName	ActivityName	sinkFileSystem	sinkFolderPath
2022-01-13 11:53:54.7193590	2022-01-13 11:54:20.898989	4366c6a0-9a5f-4e97-97dd-aa9eeae035f1	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:2284D420>
2022-01-13 11:53:54.8898404	2022-01-13 11:54:19.9578033	372f1796-485a-4663-a5d0-2e7f07c812cf	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:A613B14A>
2022-01-13 11:53:55.0099239	2022-01-13 11:54:24.1611265	8bbad3bf-556f-4ca9-ac9e-795b41d332b09	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:2A25E4E4>
2022-01-13 11:53:55.0406253	2022-01-13 11:54:27.8877474	49fa9f5c-ecd9-4009-876e-4ac325a38660	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:665DF940>
2022-01-13 11:53:56.1043093	2022-01-13 11:54:29.5283964	98aa4efa-8ef1-4505-bd19-5fa0852d6fcb	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:F83DD251>
2022-01-13 11:54:05.1566083	2022-01-13 11:54:25.0946313	69f550ef-4bff-4857-9878-43699f4ec426	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:00BD2E3D>
2022-01-13 11:54:05.2440325	2022-01-13 11:54:28.7870710	2b9f167b-f144-4f31-911f-dd71c77899d1	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:16E3EC7D>
2022-01-13 11:54:06.0669091	2022-01-13 11:54:27.2714248	86836fc5-337f-4f77-b6cb-509374bcbfe2	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:9218824C>
2022-01-13 11:54:06.7217033	2022-01-13 11:54:25.9615501	ec041829-856d-414f-9b81-5b23eca6924d	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:E9E12D8E>
2022-01-13 11:54:10.4564354	2022-01-13 11:54:27.0393199	204ab66c-857b-4620-a456-06fdd8e22751	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:75209F3D>
2022-01-13 11:54:10.7153719	2022-01-13 11:54:29.5888681	6f55b886-7fdc-4ec5-a4c9-77d968edbf6d	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:6DD89FE2>
2022-01-13 11:54:11.2599182	2022-01-13 11:54:28.4768353	82425169-f2bb-4fab-af0d-005f20518ee6	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:E5226200>
2022-01-13 11:54:17.3387620	2022-01-13 11:54:37.8487510	14a754bf-bc64-4cb9-9421-5a6ae3382c4f	True	FileServer	AzureBlobFS	Failed	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:EA77EA91>
2022-01-13 11:54:17.3741511	2022-01-13 11:54:36.3991854	9c9c39b3-3369-4b03-876d-97f4db64174d	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:EA77EA91>
2022-01-13 11:54:23.5892708	2022-01-13 11:54:36.7936150	45bdc3e5-fad0-4867-a8b2-4fb968de9dbf	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:98679DD8>
2022-01-13 11:54:35.1775051	2022-01-13 11:56:58.4300403	bffe58a2-4308-4836-aa7b-d2aa9d69f0cf	False	FileServer	AzureBlobFS	Succeeded	lwuksadfrd001	pcopyvmtostagingdaily	copyblobtolakestaging		<pii:F4105D7A>

Resolution

- Suggest the customer to fix the configuration to avoid such racing usage.
- If the customer claims that they didn't trigger the concurrent runs, you need to further file an ICM to ADF Orchestration team to investigate where such runs come from.