TCSS 562 - Term Project

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Introduction - TLQ Pipeline

Service 1 -

1. Get Sales Data from S3 bucket.
2. Perform the following transformations:
    a. Add column ‘Order Processing Time’
    b. Transform ‘Order Priority’
    c. Add column ‘Gross Margin’
    d. Remove duplicate data
3. Add the transformed data back to S3 bucket.

Service 2 -

1. Get transformed data from S3.
2. Connect to the database.
3. Check if table exists.
4. If yes, add the transformed data into the table.

Service 3 -

1. Connect to the database.
2. Query data based on the parameters passed in the request object.

Case Study

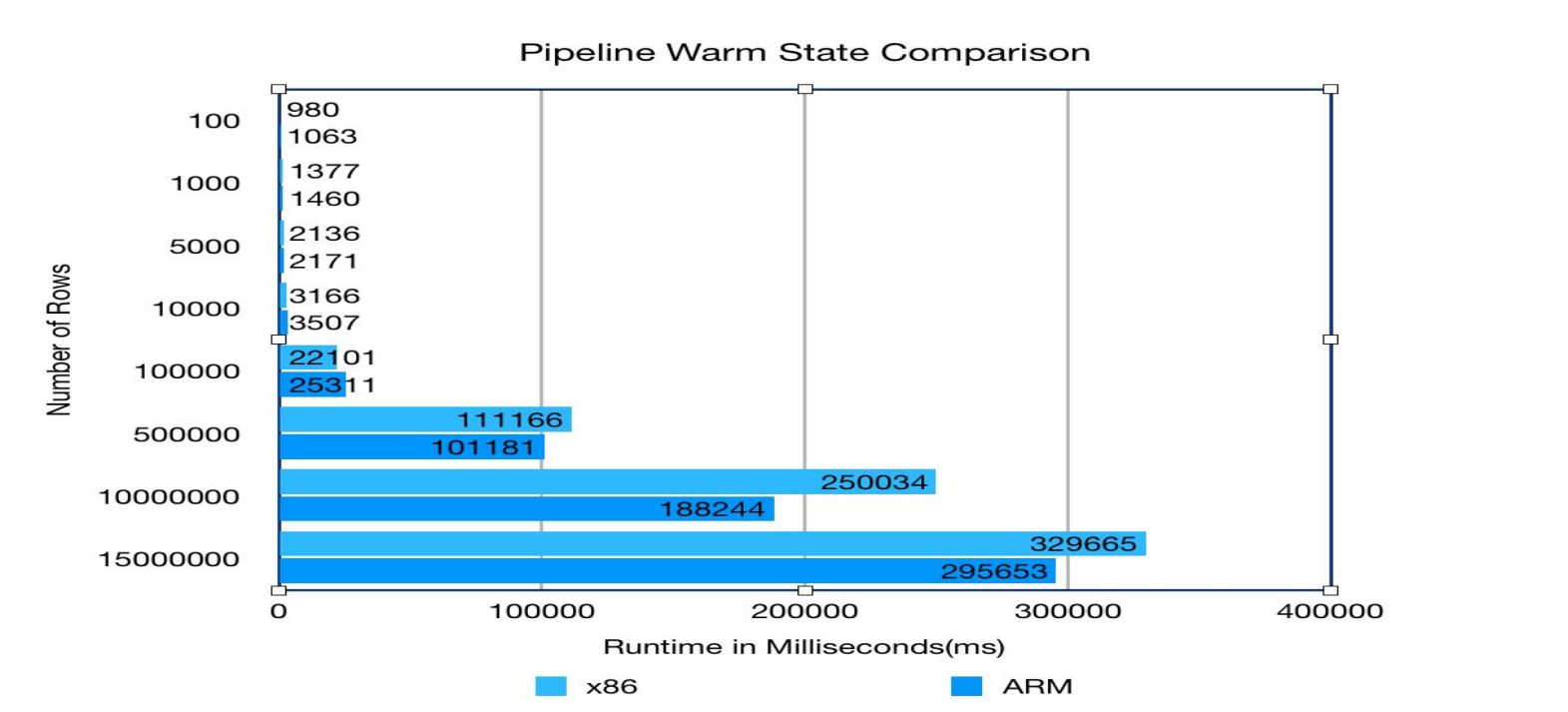
Compare the performance of the application on x86 architecture vs Arm architecture based on the following metrics:

1. Warm Service Performance
2. Cold Service Performance
3. Data throughput

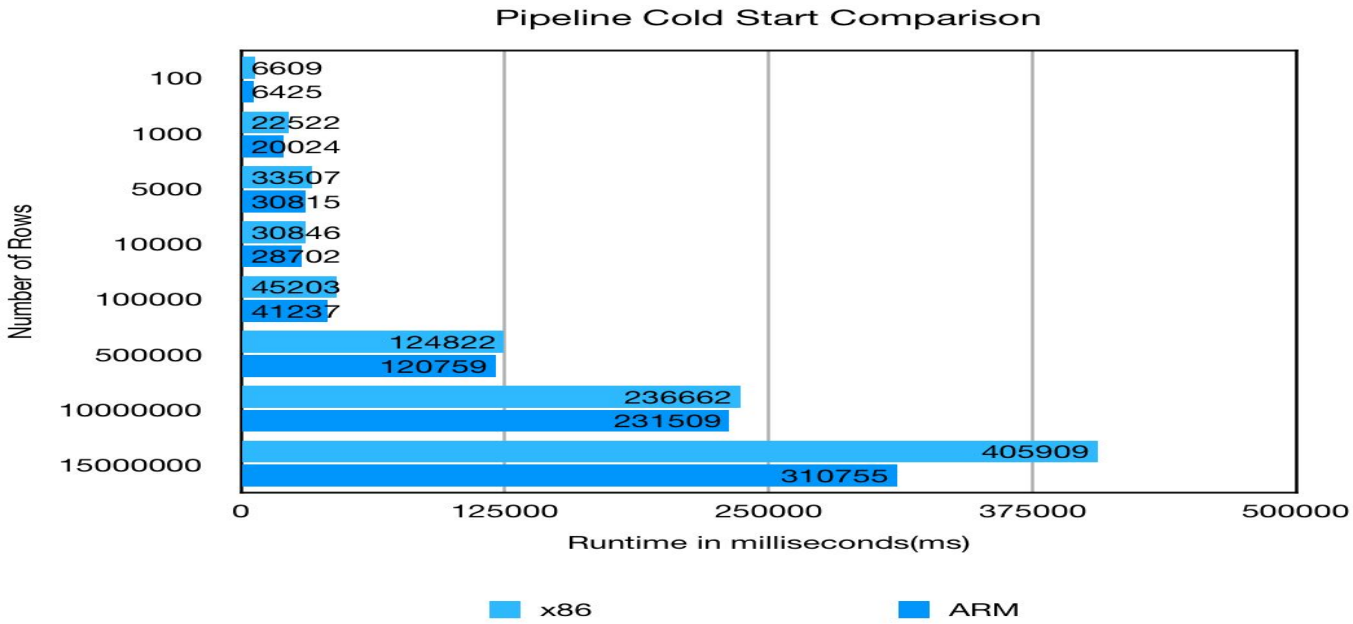
Language/ Tools /Technologies:

1. Python
2. Lambda Layers
3. boto3
4. pandas, pymysql
5. AWS Step Functions

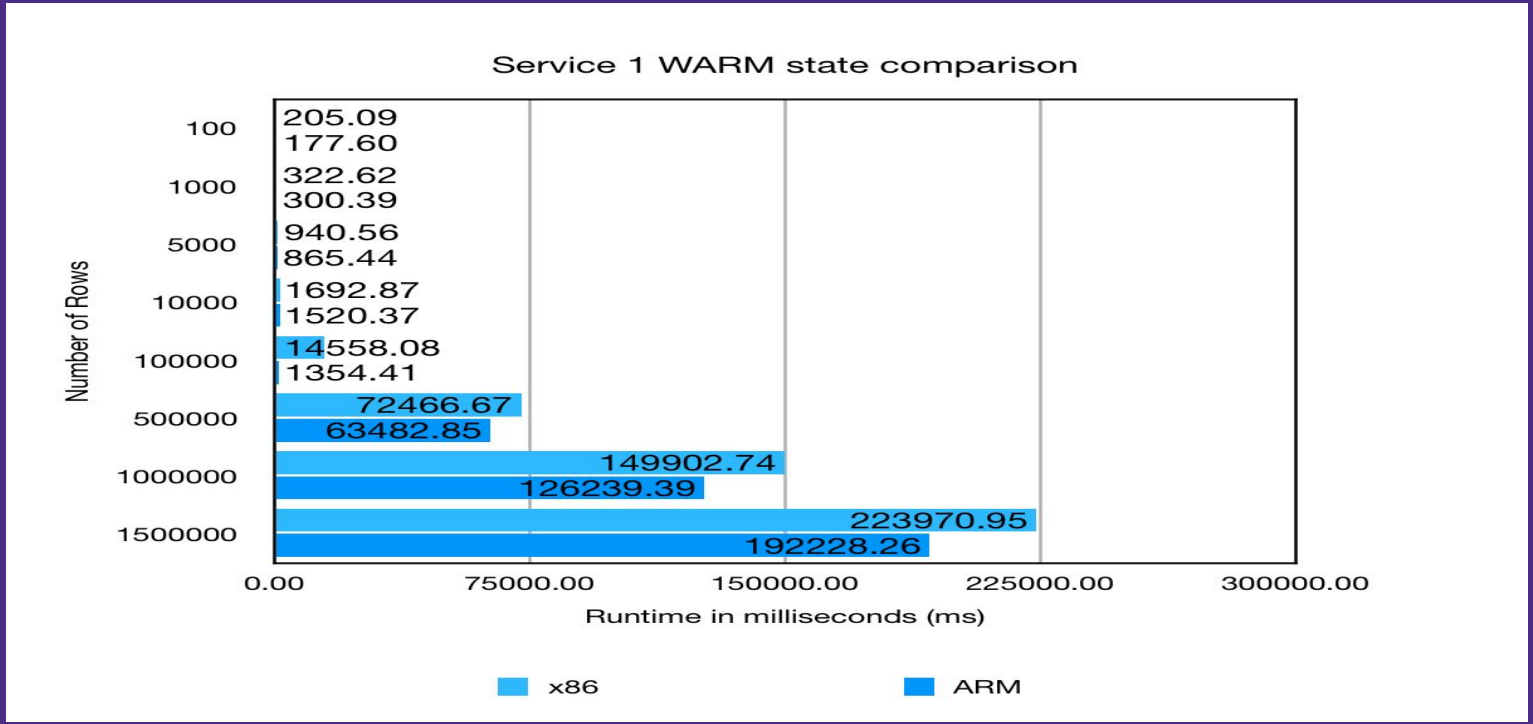
Pipeline Warm Start Performance



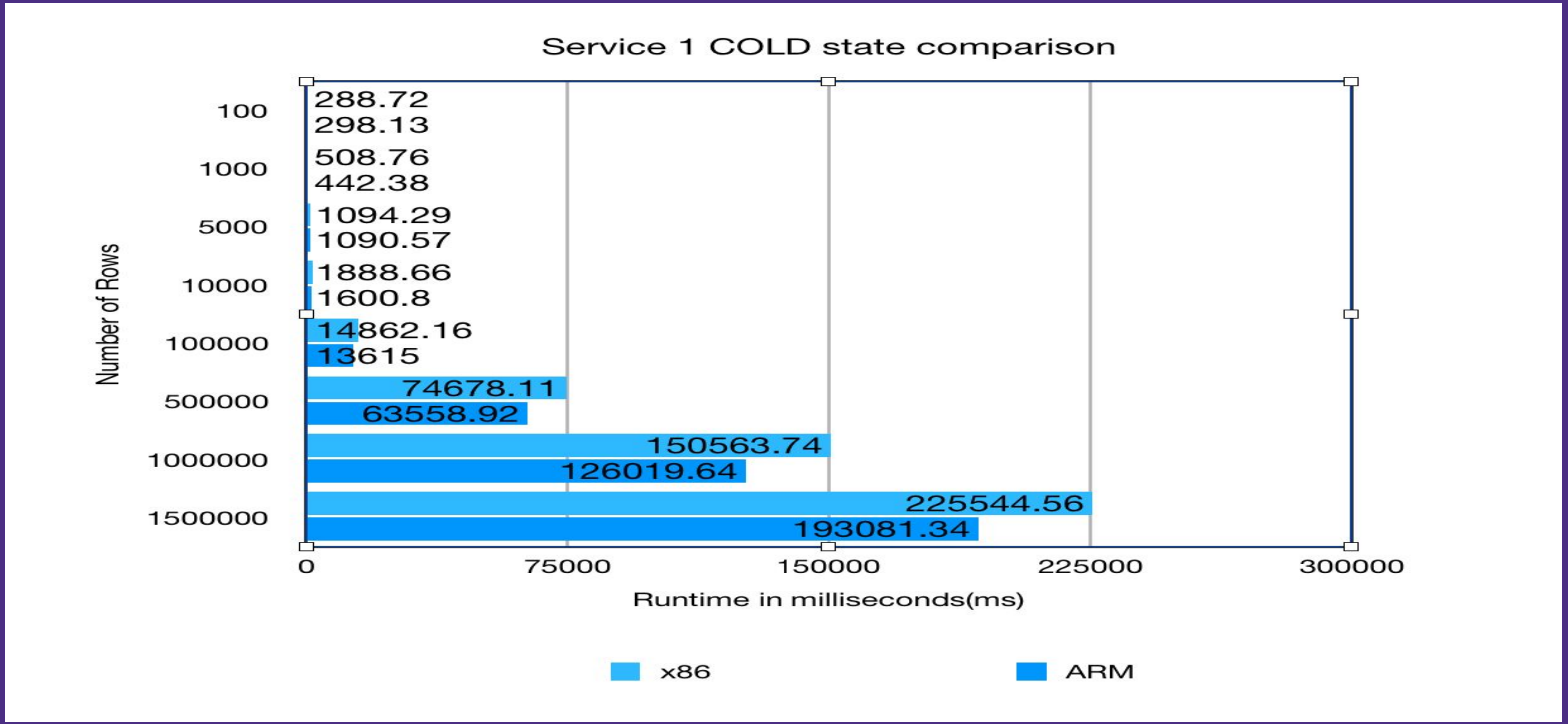
Pipeline Cold Start Performance



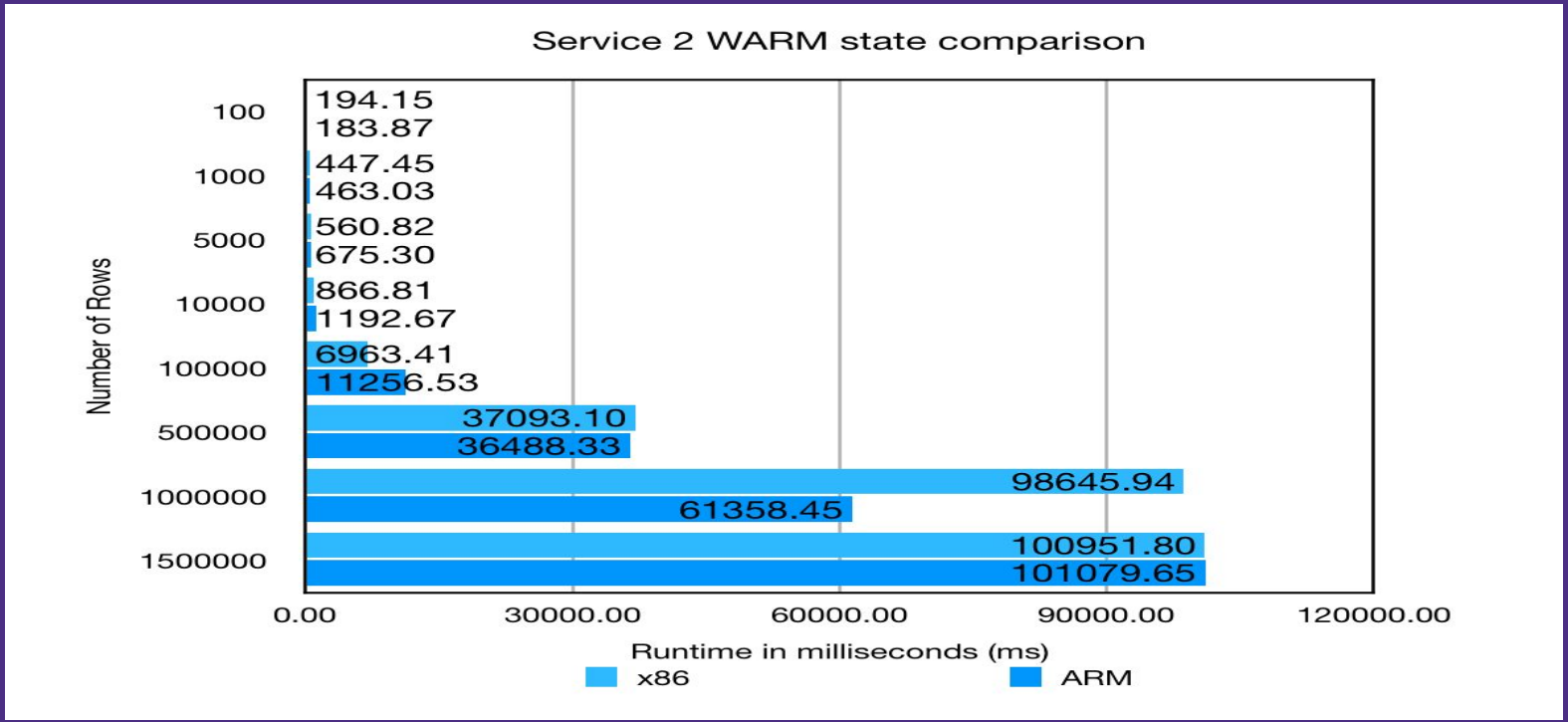
Service 1 Warm Start Performance



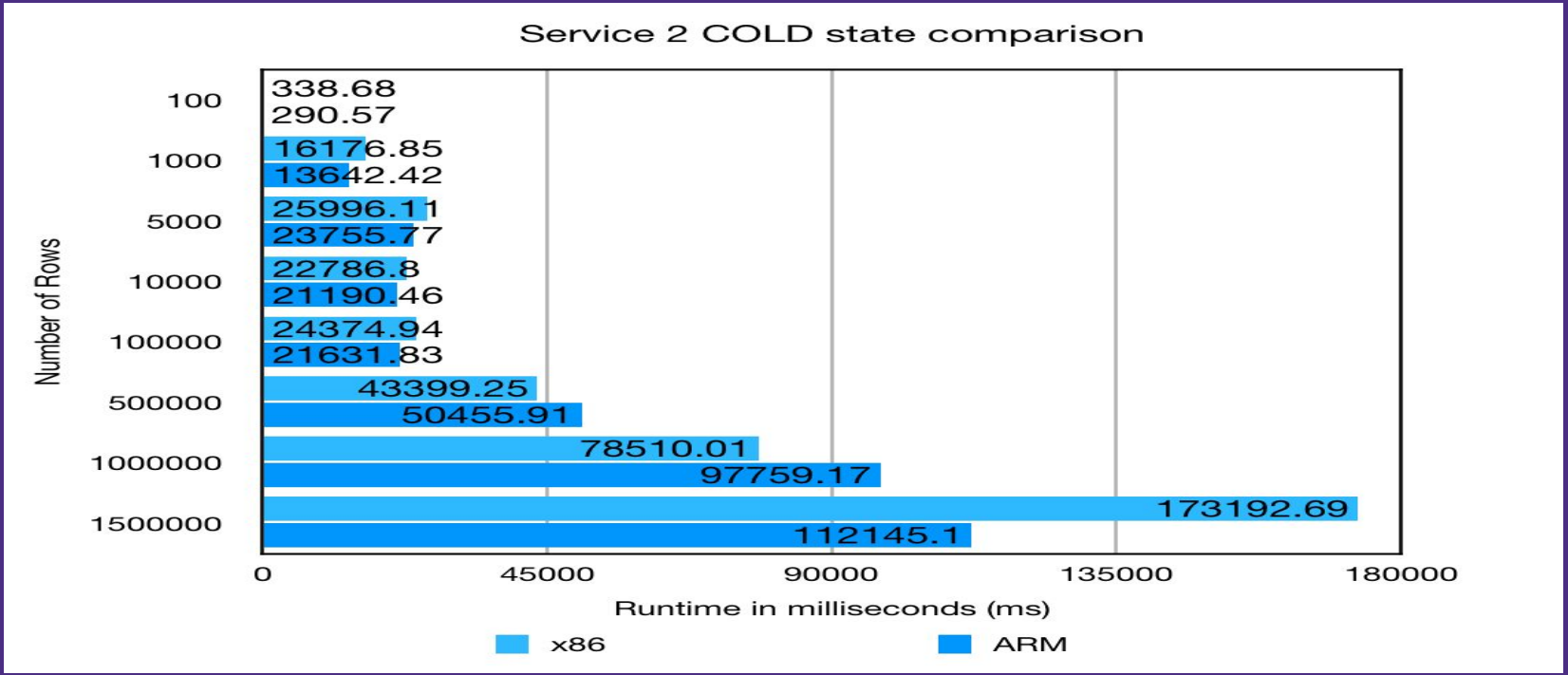
Service 1 COLD Start Performance



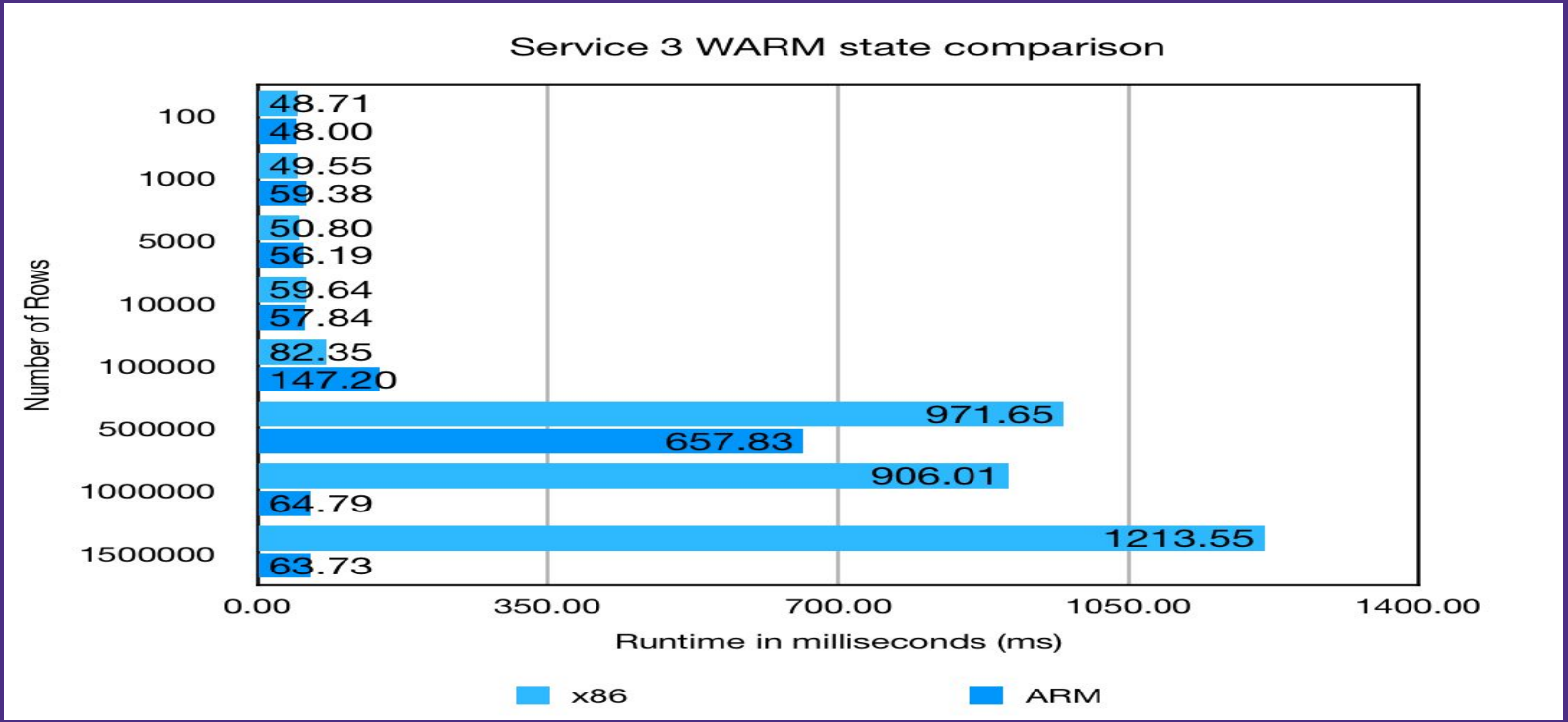
Service 2 WARM Start Performance



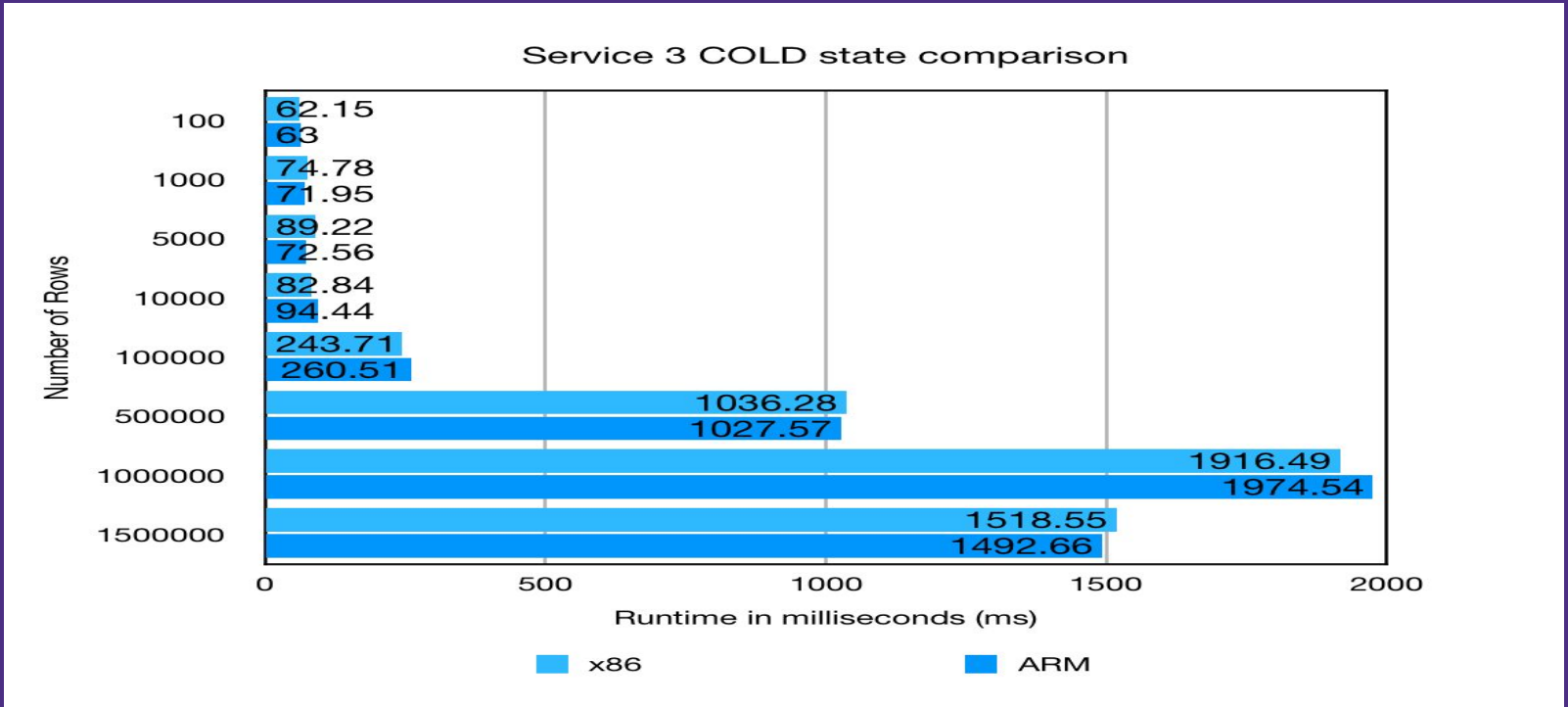
Service 2 COLD Start Performance



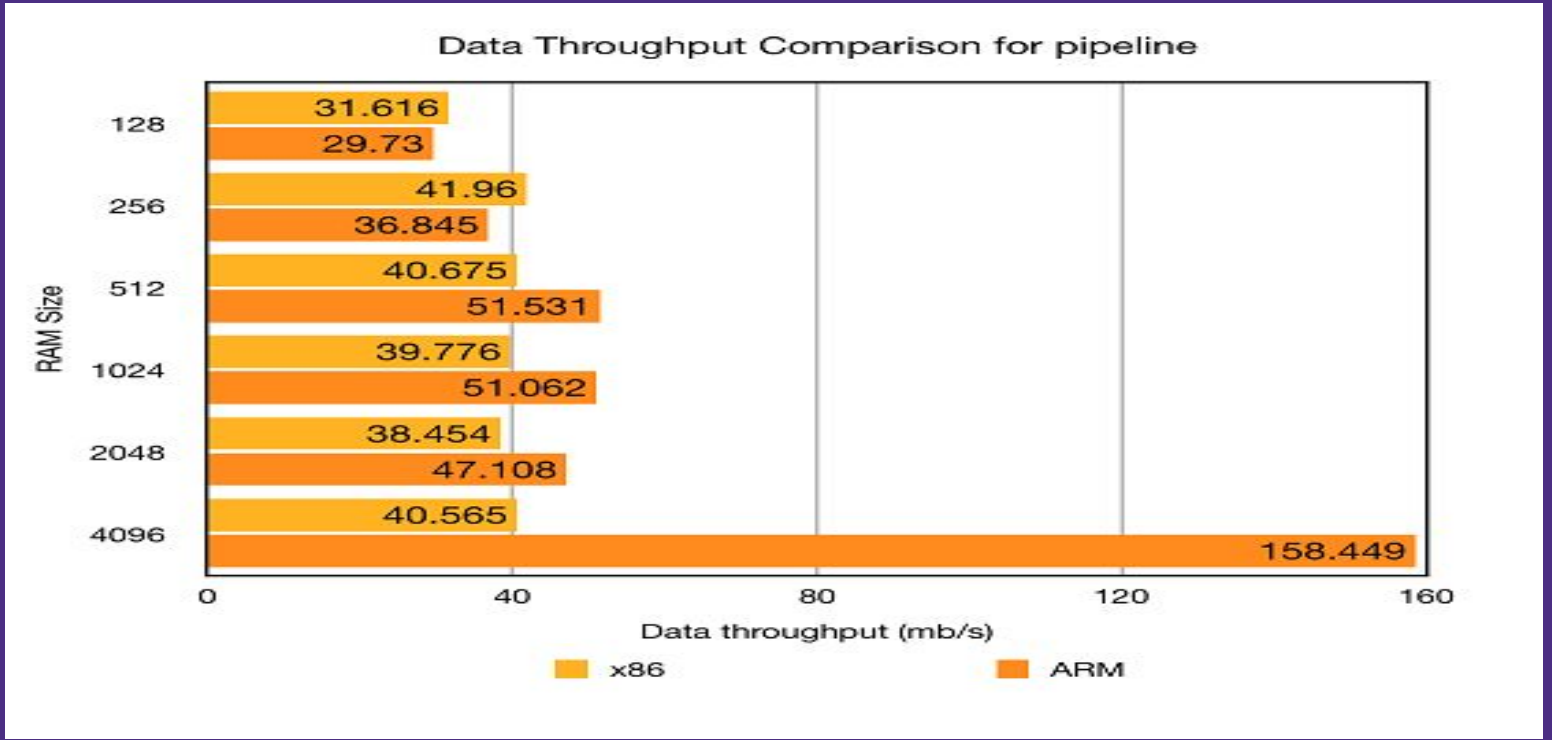
Service 3 WARM Start Performance



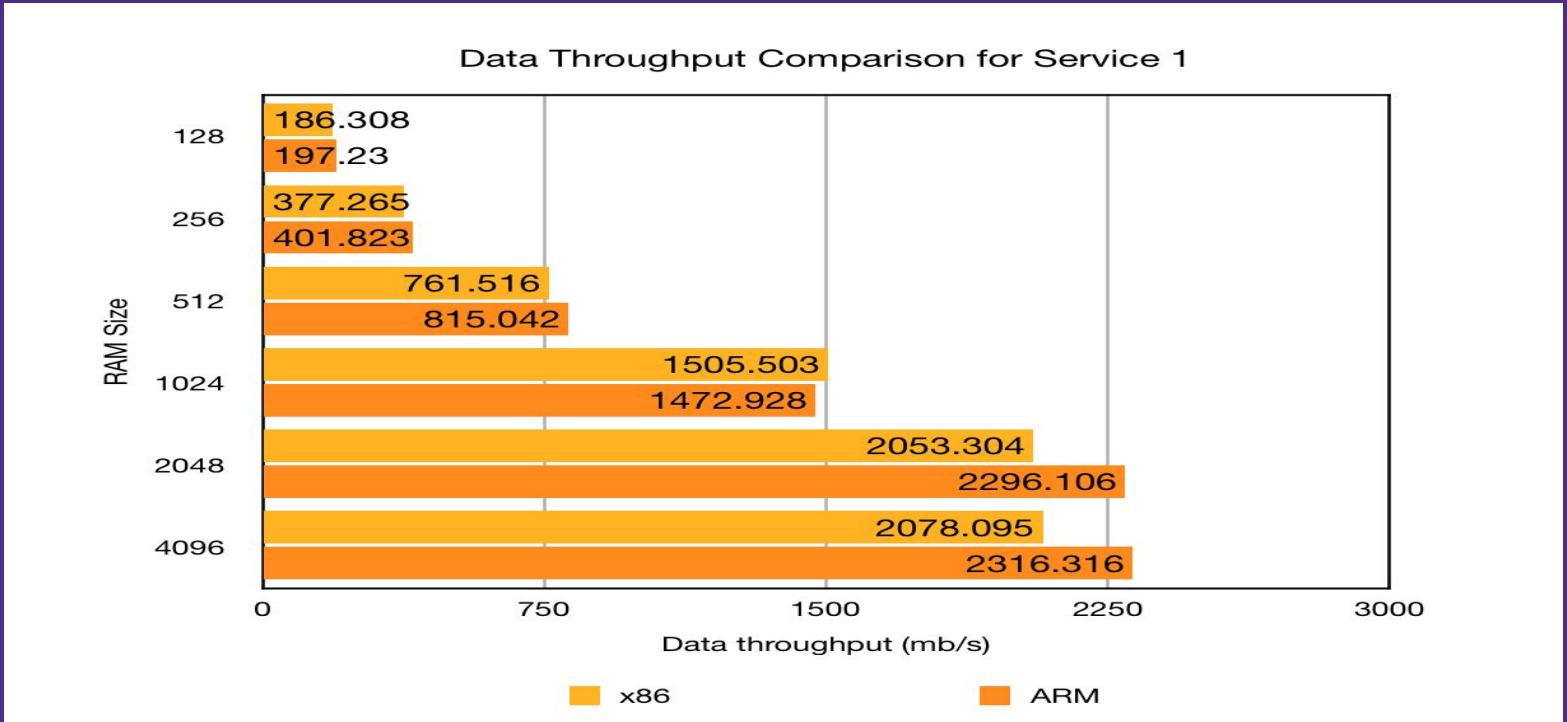
Service 3 COLD Start Performance



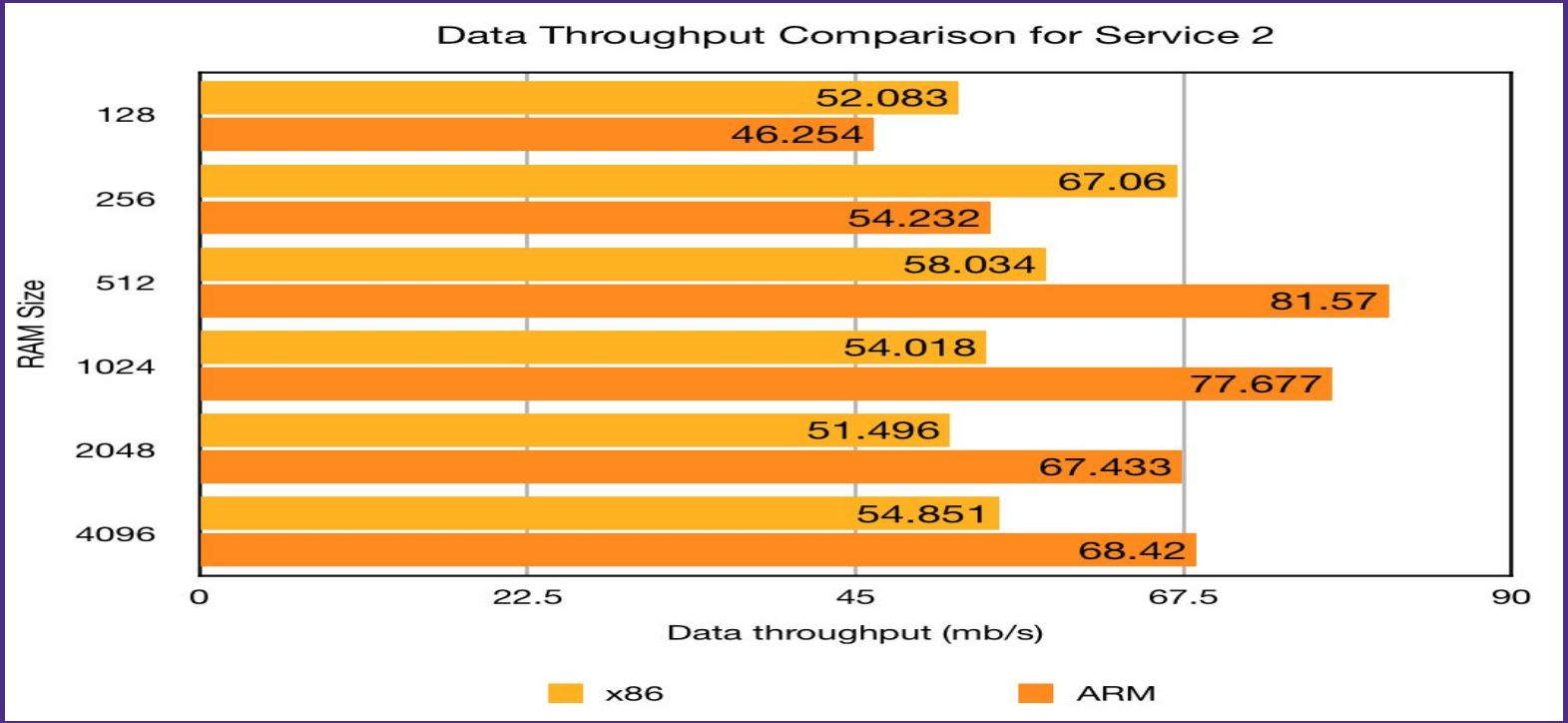
Data Throughput Comparison for pipeline



Data Throughput Comparison for service 1



Data Throughput Comparison for service 2



Data Throughput Comparison for service 3