



# SmartData Fabric® External and Index (EIQ) Adapters™ for Mainframe Data Access and Integration

July 2020

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# 1. Six levels of engagement for mainframe data access

1. **STATIC/ARCHIVED MAINFRAME DATA STORED ON THE MAINFRAME** going through any available mainframe database driver/API – modern application access
2. **STATIC/ARCHIVED MAINFRAME DATA FILES (MDFS) STORED ETERNALLY** on a SAN or other non-mainframe storage, using a specialized EIQ Adapter driver – modern application access
3. **LIVE MAINFRAME DATA STORED AND MAINTAINED ON A MAINFRAME** going through any available mainframe database driver/API with a changed data capture process for index updates – modern application access
4. **COMBINE MAINFRAME DATA WITH OTHER DATA SOURCES** – modern application access to mainframe data and possible mainframe application access to other data sources
5. **TRANSITION-MIGRATION TO MOVE DATA FROM A MAINFRAME TO A MODERN DATABASE** – modern application access to mainframe data and possible mainframe application access to a modern database
6. **COMBINATIONS OF THE ABOVE**



## 2. Archived mainframe data stored as original files on a storage area network (SAN)

# Use case for very large environmental disposal company

## Issues:

- Mainframe was being maintained to access COBOL-generated VSAM mainframe data files (MDFs) – large no. of very large and highly variable formats
- Intensive manual process to query, extract, filter, transform and combine mainframe data for BI and analytics

## WhamTech Solution

- Copied MDFs without modification, i.e., original, to a SAN
- Automatically read headers, and read, parsed and indexed data in very large MDFs using a specialized WhamTech-developed ODBC driver
- Enabled modern BI and analytics applications relational SQL access through ODBC driver to the MDFs
- Used file-block level pointers to retrieve results data – often sequential reads – avoids reading entire files
- Enabled integration of mainframe data with modern application-generated data
- Enabled shutdown of the mainframe, which was costing \$100K per month – a one month payback – huge ROI and saved substantial human resource costs
- Enabled retention of their original MDFs for environmental and other regulatory compliance with advanced query capabilities

### 3. Live mainframe data access

Similar to normal database file access and updates

- use a standard or proprietary driver, and change logs with associated reader for index updates



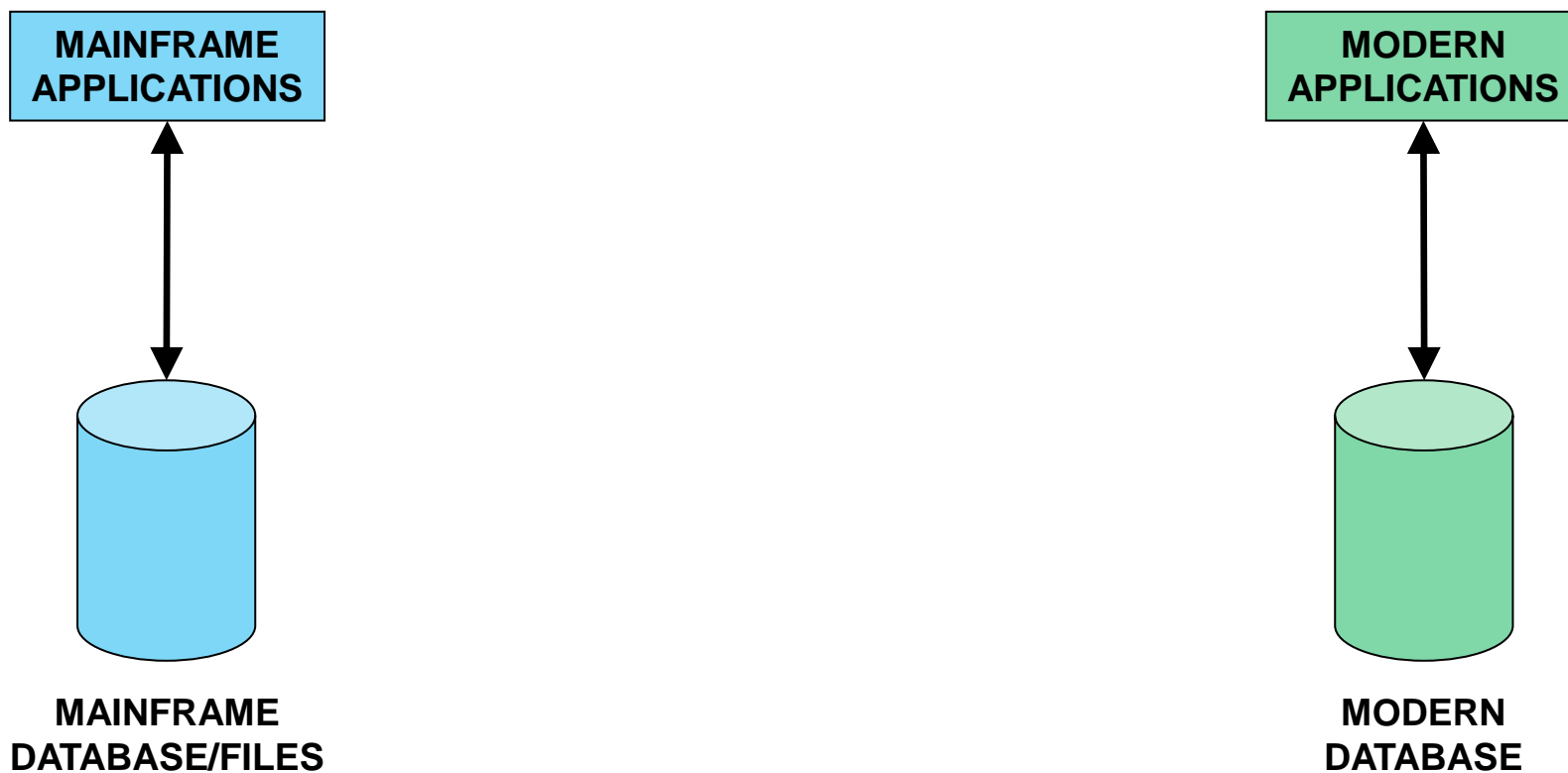
## 4. Mainframe to modern DBMS transition-migration in the enterprise or cloud

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Scenario a: Mainframe files static/no longer updated

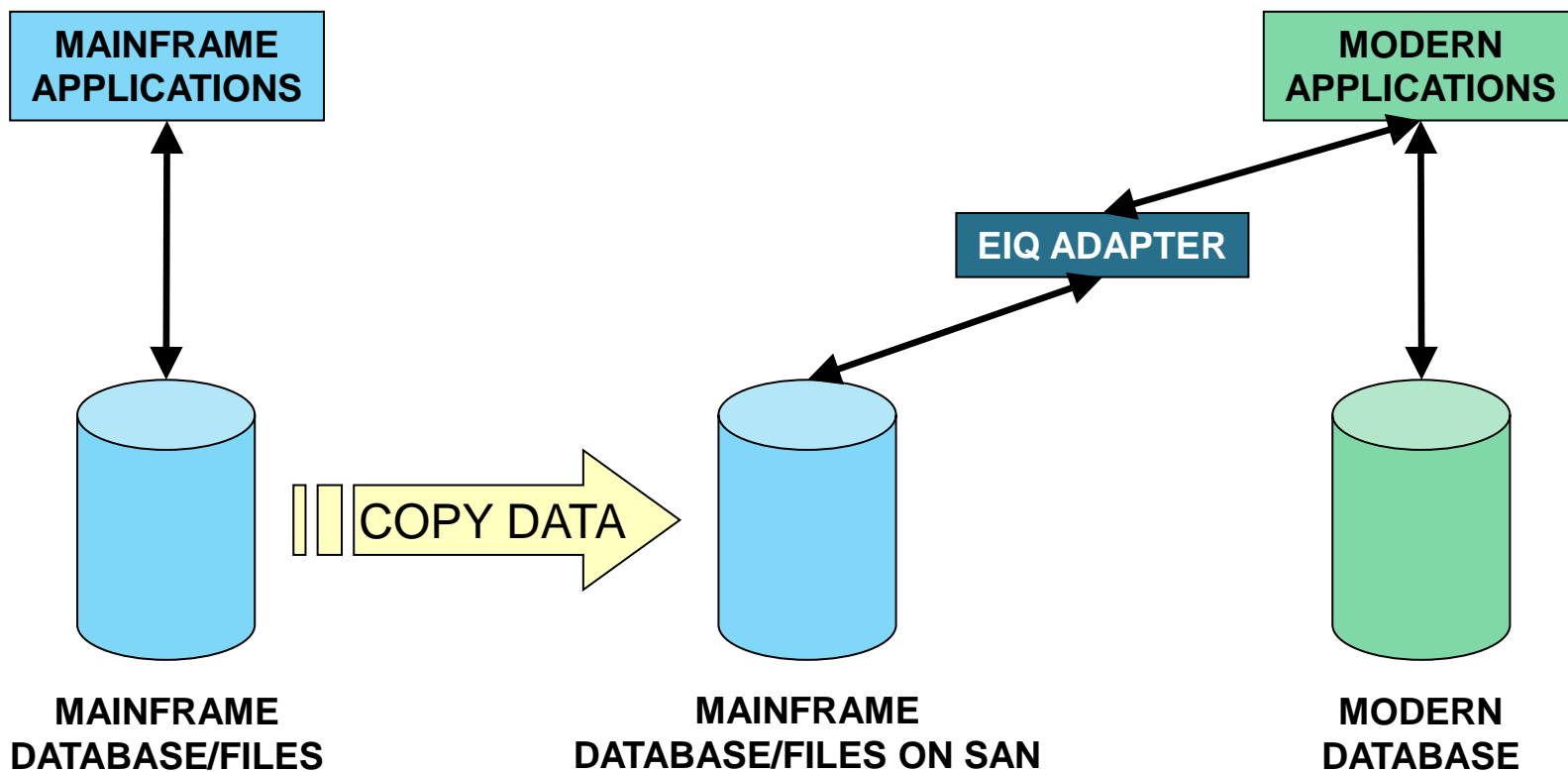


## Stage 1: No interconnectivity



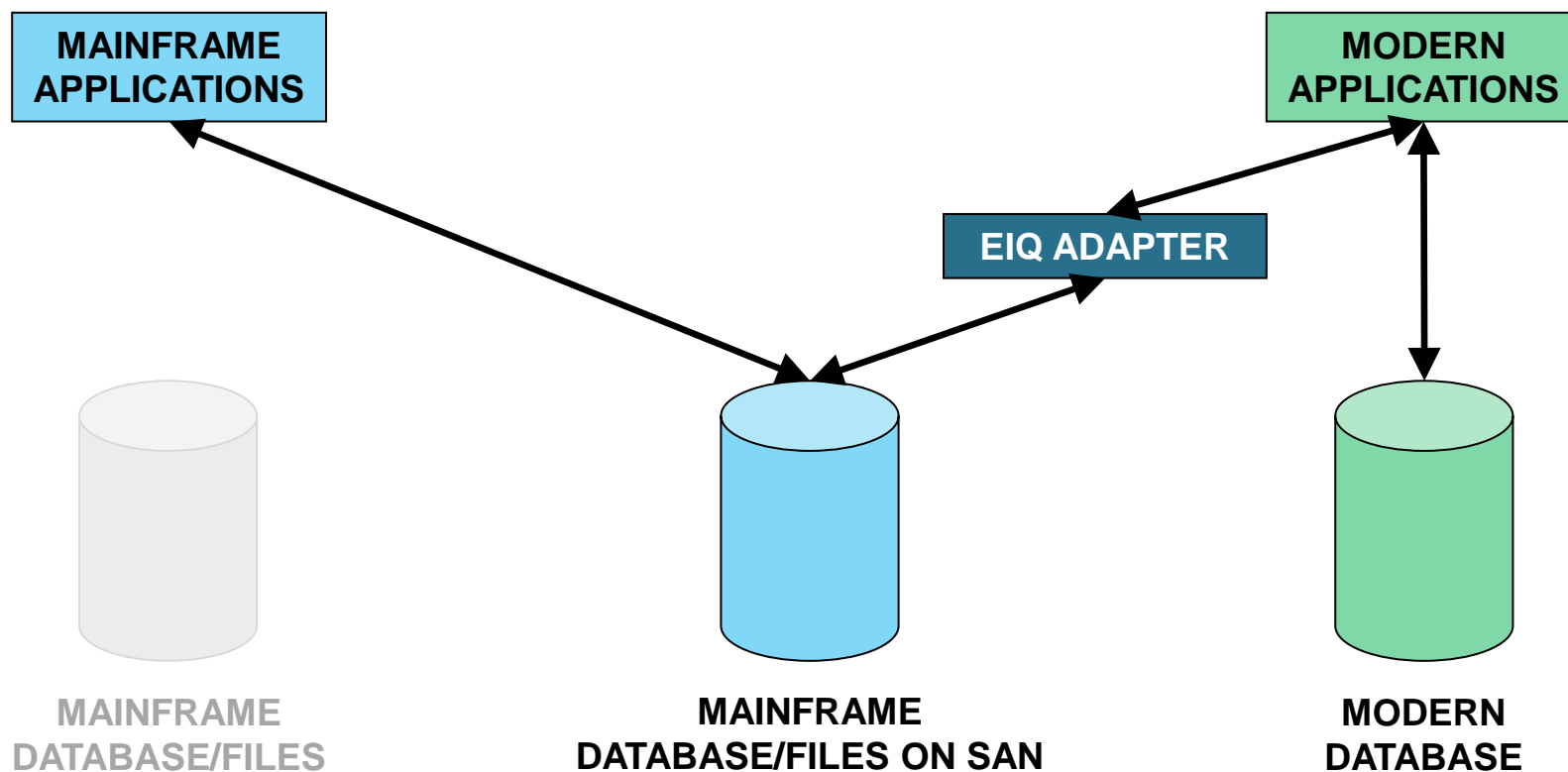
Initially, no interconnectivity between mainframe applications and a modern database, or between modern applications and the mainframe database/files

## Stage 2: Copy mainframe files and enable modern app access



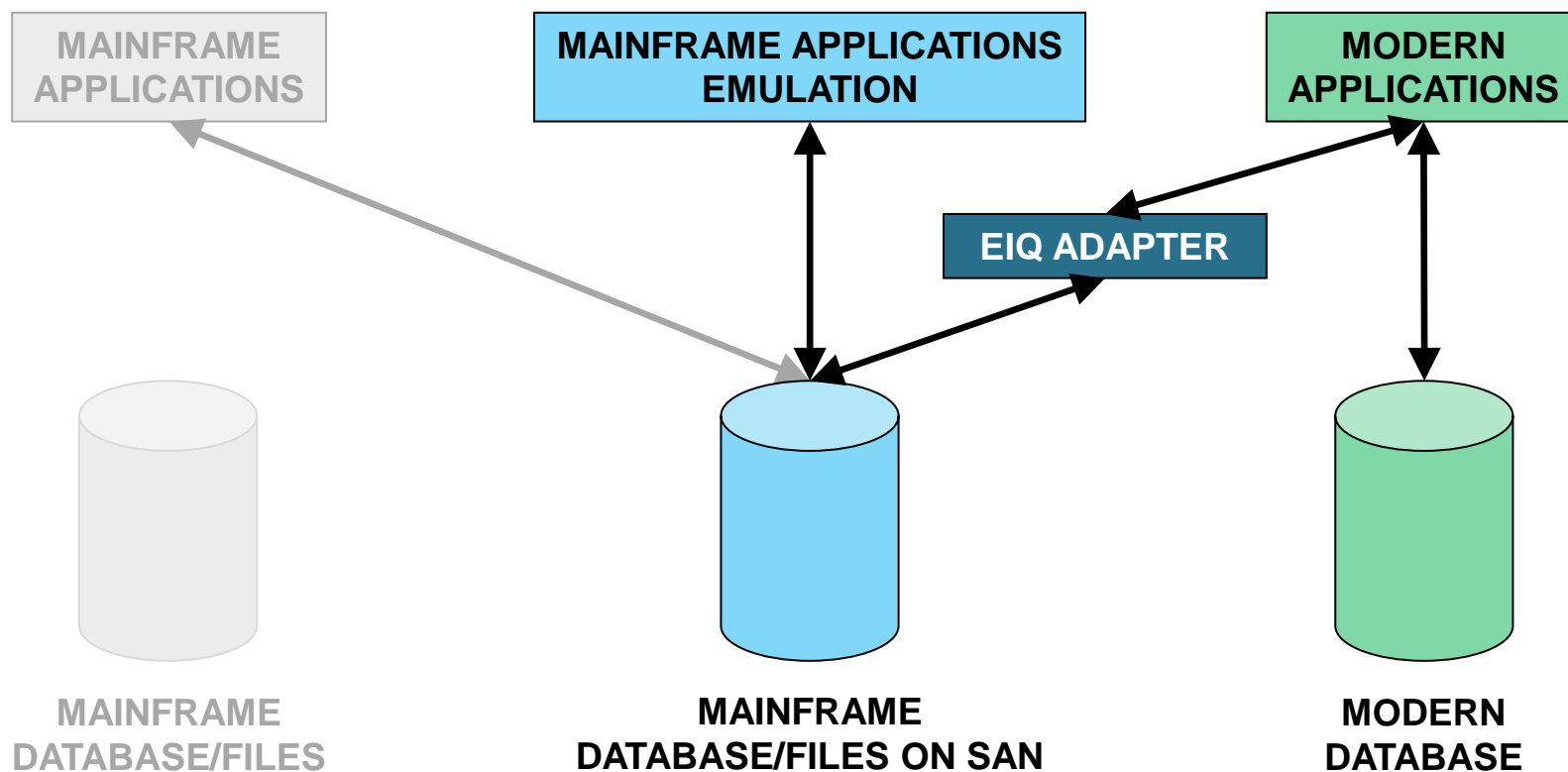
Copy files from mainframe to an external SAN, NAS, Cloud or similar, and enable modern applications access to them through an EIQ Adapter as though a modern database with standard drivers and SQL

## Stage 3: Enable mainframe apps to access externally stored files



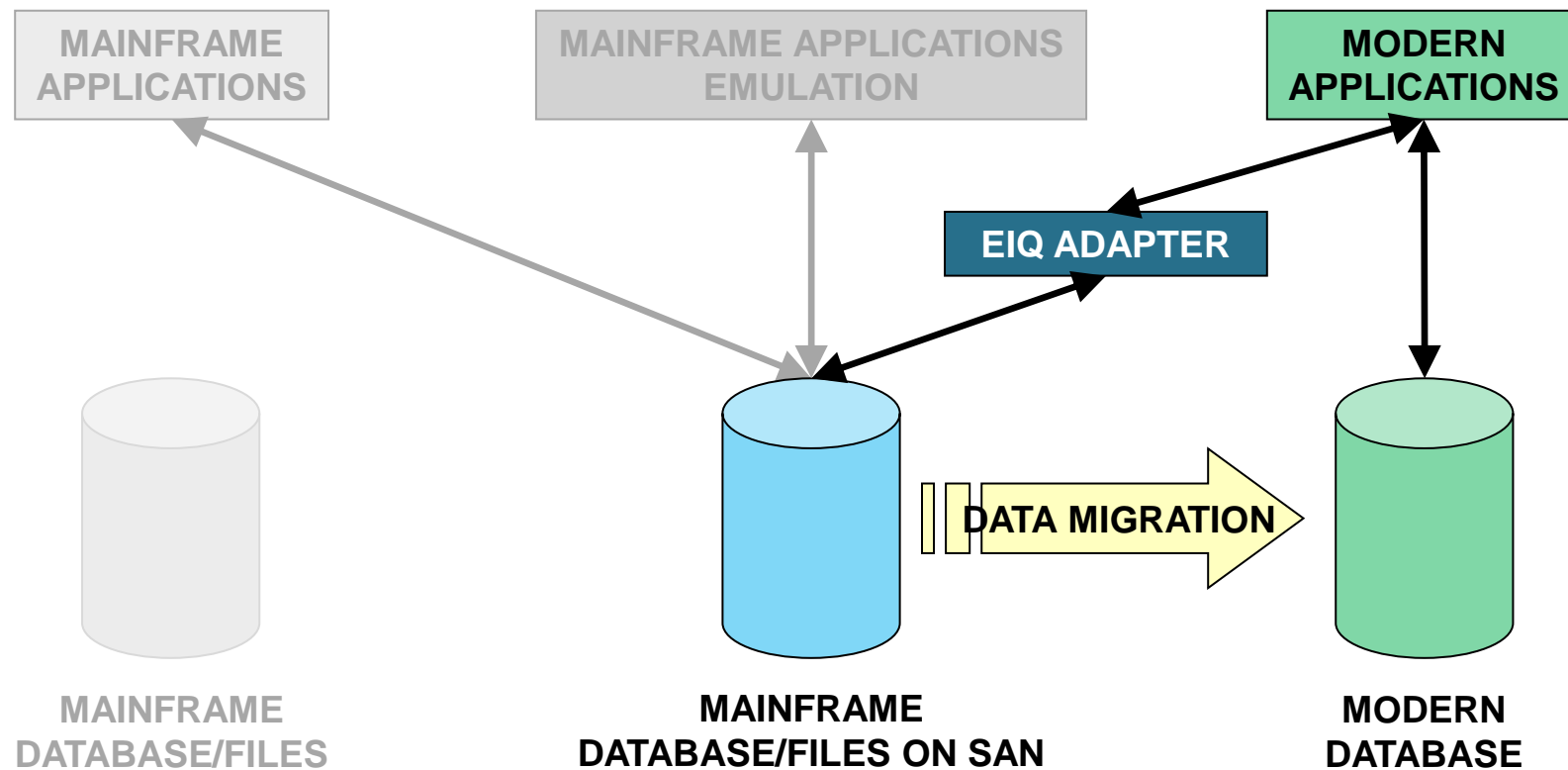
Enable mainframe applications to access externally stored mainframe database/files as though still stored on mainframe

## Stage 4: Emulate mainframe applications external to mainframe



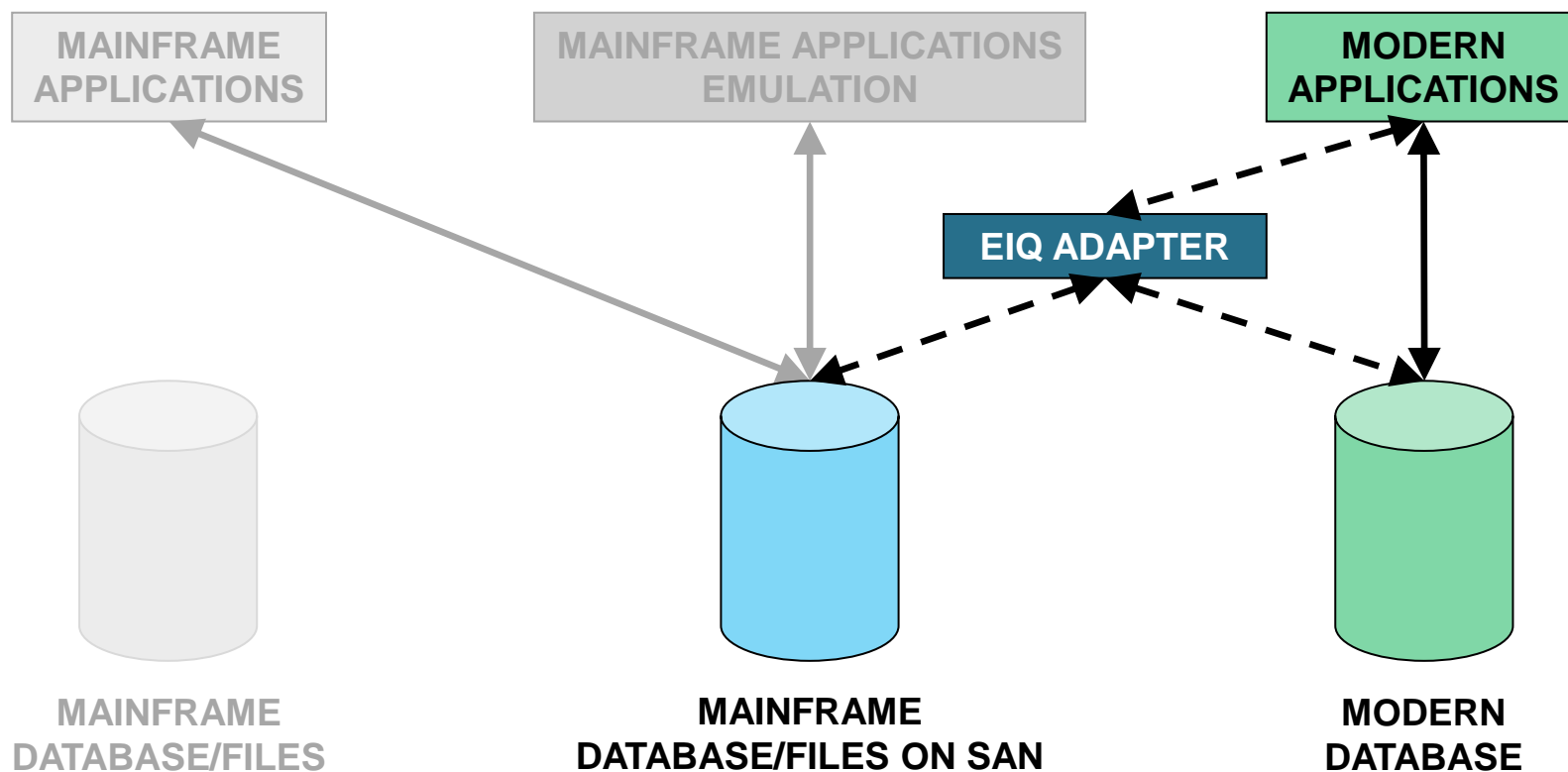
Emulate mainframe applications on a modern system and access externally stored mainframe database/files – phase out applications on the mainframe and shutdown mainframe (major cost savings)

## Stage 5: SQL migrate mainframe data to modern database



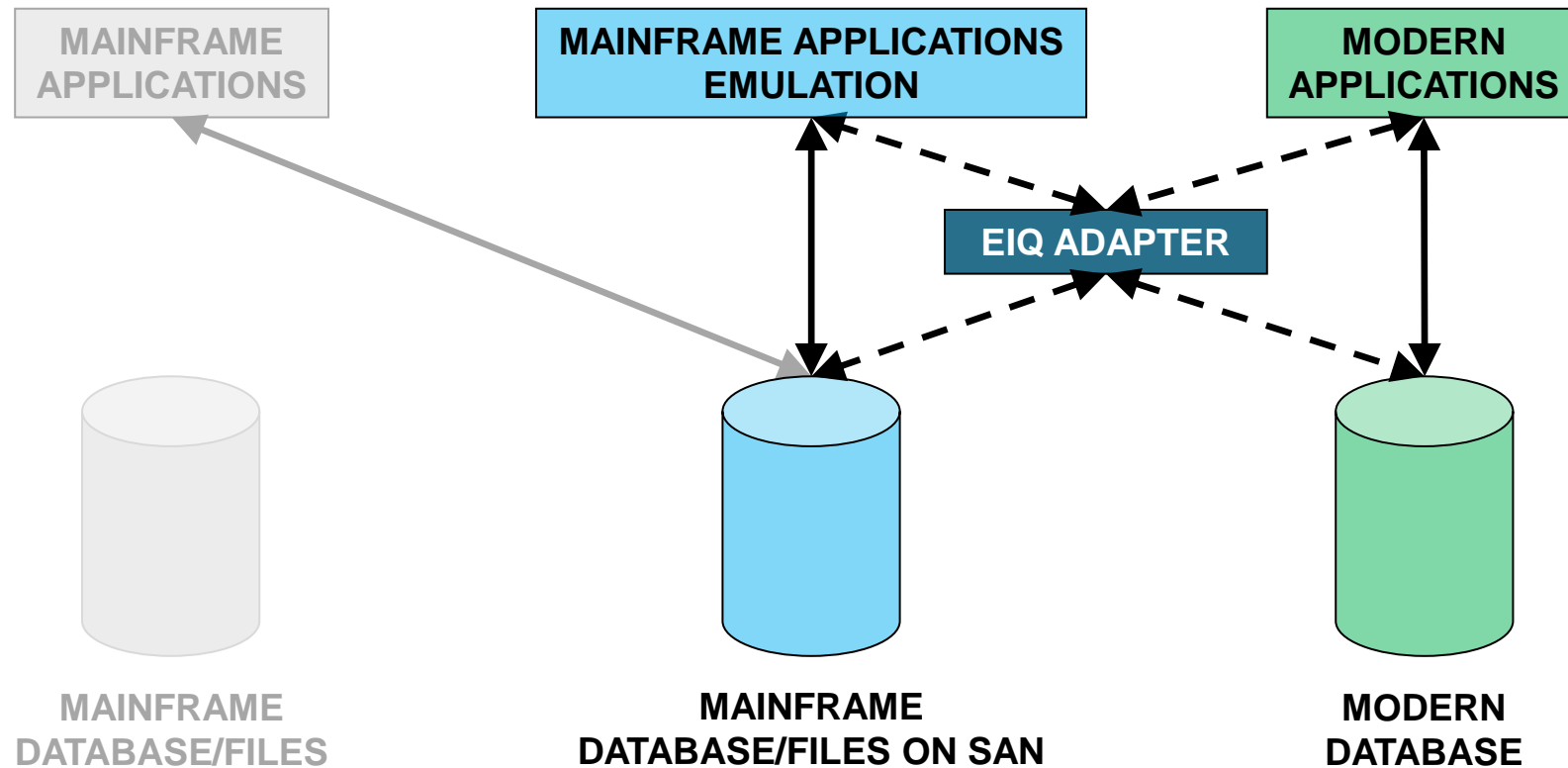
As option, SQL migrate data from mainframe database/files to modern database – for compliance reasons, original mainframe database/files may need to be retained – option to phase out mainframe applications emulation

## Stage 6: Continue to use an EIQ Adapter



Modern applications continue to use an EIQ Adapter for additional capabilities or for access to original mainframe database/files for compliance and other reasons

## Stage 6a: Continue to use an EIQ Adapter



One option may be to transform queries from mainframes applications, running on a mainframe or emulation, through an EIQ Adapter and returning results from a modern database – depends on applications

## 4. Mainframe to modern DBMS transition-migration in the enterprise or Cloud

Scenario b: Mainframe files live and updated

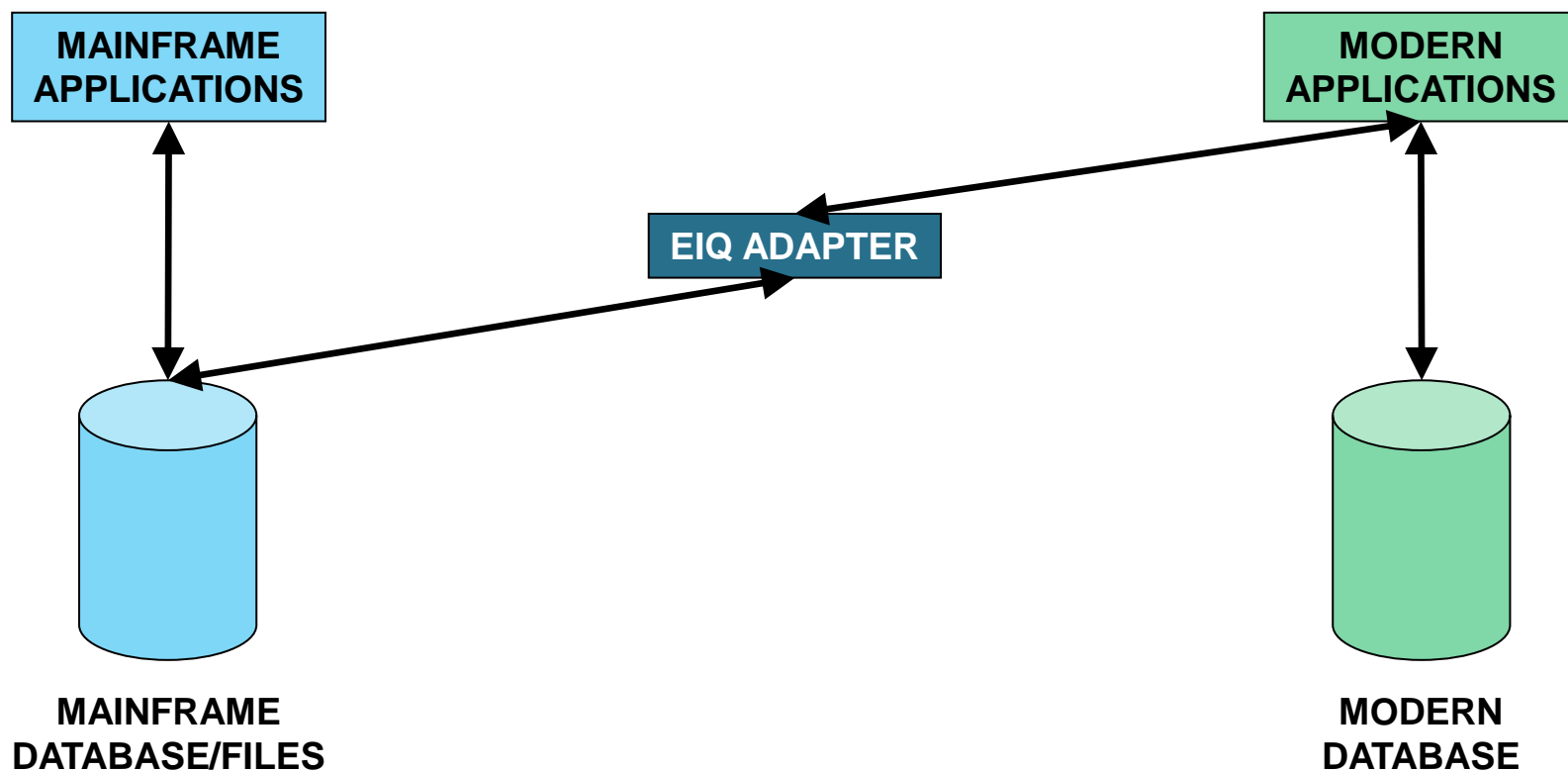


## Stage 1: No interconnectivity



Initially, no interconnectivity between mainframe applications and a modern database, or between modern applications and the mainframe database/files

## Stage 2: Enable modern app access through an EIQ Adapter



Enable modern app access to live and updated mainframe database/files through standard or proprietary drivers – establish a suitable changed data capture (CDC) process



# The End