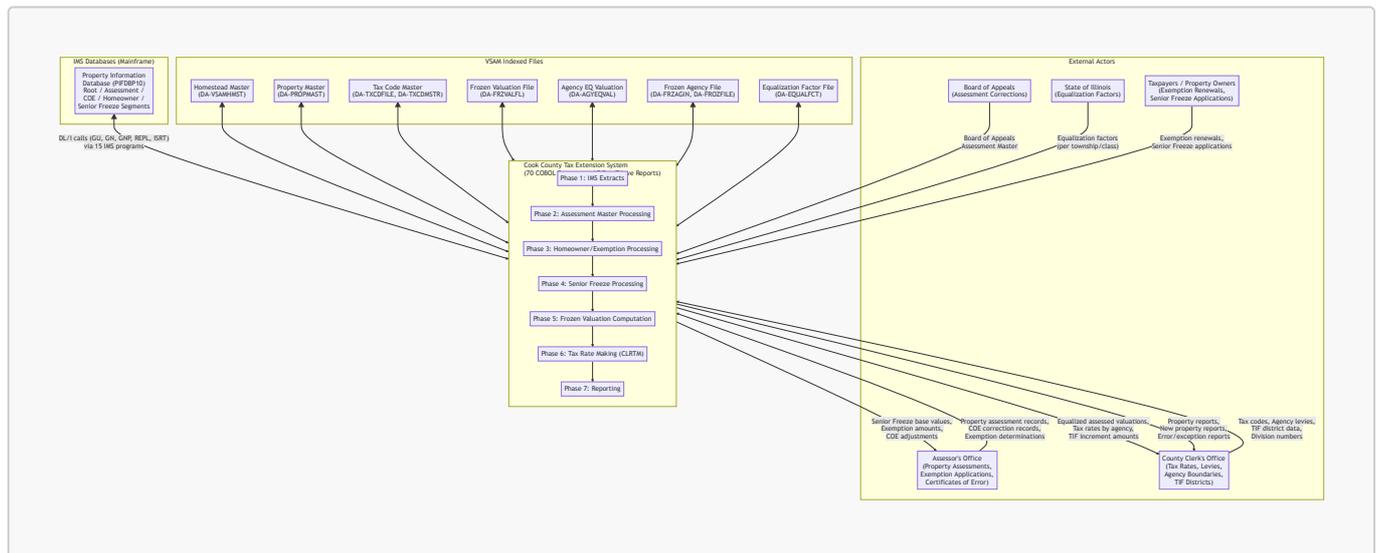# System Context Diagram

**Task 1.5 Deliverable -- Software Architecture Diagrams**

This diagram shows the Cook County Tax Extension system at the highest level: the system boundary, its external actors, and the data that flows between them. The purpose is to give stakeholders a single-page view of what the system interacts with and why.

## System Context

The Tax Extension system sits between several county offices (Assessor, Clerk, Board of Appeals) and external data sources (IMS databases, VSAM files, state equalization factors). It ingests property assessment data, exemption data, and policy parameters, then produces equalized valuations, tax rates, frozen valuations, and reports consumed by the Clerk's office for tax billing.



## External Interface Summary

The table below catalogs every external interface the system depends on, organized by type.

### Hierarchical Database (IMS/DL/I)

| Interface | Description | Programs Using It |
|---|---|---|
| **PIFDBP10** | Property Information Database. Contains Root, Assessment, Location, COE, Homeowner, and Senior Freeze segments in a hierarchical structure. | ASCOE500, ASHMA827, ASHMA828, ASHMA830, ASHMA832, ASHMA836, ASHMA840, ASHMA845, ASHMA850, ASHMA857, ASHMA859, ASHMA921, ASHMA922, ASHMA923, ASREA007 |

### VSAM Indexed Files (Direct Access)

| Interface | DD Name(s) | Description | Key Programs |
|---|---|---|---|

| Interface | DD Name(s) | Description | Key Programs |
|---|---|---|---|
| Homestead Master | DA-VSAMHMST | VSAM KSDS of homestead exemption records | ASHMA440 |
| Property Master | DA-PROPMAST | VSAM KSDS of property identification records | ASREA847 |
| Tax Code Master | DA-TXCDFILE, DA-TXCDMSTR, DA-I-TAXCODE, DA-TAXCODE | Maps tax codes to taxing agencies | ASREA010, ASREA748, CLRTM752, CLRTM759 |
| Frozen Valuation | DA-FRZVALFL, DA-FRZVAL | Frozen assessed valuations per property | ASREA740, ASREA741, ASREA745, ASREA909 |
| Agency EQ Valuation | DA-AGYEQVAL | Equalized valuation totals per taxing agency | CLRTM756 |
| Frozen Agency | DA-FRZAGIN, DA-FROZFILE | Frozen EQ values and TIF data per agency | CLRTM755, CLRTM759 |
| Equalization Factors | DA-EQUALFCT | State equalization factors by township/class | ASHMA850, ASHMA855, ASHMA857 |
| Landmark/NPHE | DA-LDMKFILE, DA-LANDMARK, DA-NPHEPRO | Landmark properties and NPHE proration data | ASHMA839, ASREA864 |
| Co-op Master | DA-COOP, DA-MSTR | Co-op homestead data | ASHMA660 |
| Agency EFTS | AGCYEFTS | Agency electronic funds transfer schedule | CLRTM749, CLRTM750 |
| Volume File | DA-VOLFILE | Property volume reference | ASREA863, ASREA874 |
| Message Table | DA-MSGTBL | CICS journal message table | ASHMA828 |

Sequential Input Data (External to the System)

| Data Source | Description | Typical DD Names |
|---|---|---|
| Control Cards / Parameter Cards | Runtime parameters: tax year, township, processing options | UT-S-PARM, UT-S-CARD, UT-S-CNTRLFLE, UT-S-CONTCARD, UT-S-PARMCRD |
| Veteran Master | Veteran exemption records | UT-S-VETMAST |
| Exemption Renewals | Homeowner exemption renewal scan records | UT-S-RENEWAL |
| Board of Appeals Master | Corrected assessment records | UT-S-BAMSTR |

| Data Source | Description | Typical DD Names |
|---|---|---|
| TIF Detail Master | TIF district parcel data | UT-S-TIFDETL, UT-S-CLTIFP, UT-S-CLTIFC |
| RE Division Master | Real estate division number assignments | UT-S-DIVSION |
| Prior Year Agency Master | Previous year agency assessment totals | UT-S-PRIORAGY |

## Reports and Output Products

| Output Category | Description | Consuming Office |
|---|---|---|
| Property Reports by Agency | New property EQ values by agency number and town | Clerk's Office |
| TIF Difference Reports | TIF increment computations and exception reports | Clerk's Office |
| COE Reports | Certificate of Error listings with 22-parameter filtering | Assessor's Office |
| Senior Freeze Reports | Base value computations, proration reports | Assessor's Office |
| Homeowner Reports | Town response reports, missing valuation reports | Assessor's Office |
| Print Tapes | Formatted print output for mainframe printers | Operations |

# Notes

- The system has no direct user interface. All inputs arrive as sequential files, VSAM datasets, or IMS database records. All outputs are sequential files, VSAM updates, IMS database updates, or print files.
- The original JCL job streams that orchestrate execution are not included in the repository. The phased execution order shown above is reconstructed from source code analysis.
- 15 of the 70 programs require the IMS/DL/I runtime environment. These form the most tightly coupled external dependency.