

US GAAP Long-Duration Targeted Improvements

TRADITIONAL LIFE

GAAP-TL provides an end-to-end software solution for the GAAP LDTI reporting requirements for traditional insurance.

GAAP-TL includes transaction management, as well as access to ARC's high-powered datamart, ARCBASE.

Highlights of GAAP-TL

- ✓ Visually organizes valuation process and allows for drill-down into results
- ✓ GAAP reserves, DAC, roll-forwards, and disclosure requirements under LDTI
- ✓ GAAP hierarchy organizes and manages GAAP cohorts
- ✓ GAAP projections and history validation with assumption sets for sensitivity testing and unlocking
- ✓ Historic data updated and reconciled with general ledger
- ✓ Data validation performed - reasonableness and internal consistency checks
- ✓ Missing data is derived from other sources or assumptions
- ✓ Dynamic reports to view results and disclosure information at various levels of aggregation
- ✓ Seriatim audit and validation of results



Introducing ARC's new ARCVAl module

GAAP-TL

SOFTWARE SOLUTIONS FROM



SOFTWARE ■ CONSULTING

General GAAP LDTI Steps

COLLECT & MANAGE POLICY DATA

GAAP HISTORY TRUE-UP & ALLOCATION

GAAP RESERVE & DAC CALCULATIONS

REPORTING

Collect & Manage Policy Data

Our ARCBASE actuarial data mart is ready to accept, validate, manage, and provide data for the GAAP LDTI valuation. ARCBASE provides customers an easy to use flexible input format to utilize existing TL-Flyer extracts. ARCBASE can collect auxiliary information useful for experience analysis, assumption unlocking, and other key financial reporting analytics.

Each reporting period, extracts for inforce, activity, and cash flows are loaded into ARCBASE. For traditional business, this includes contract activity for issues, deaths, surrender, first year and renewal premiums, first year and renewal commissions, as well as acquisition, maintenance and benefit expenses & premium taxes.

GAAP History True-Up & Allocation

GAAP-TL provides insurers scrubbing and allocation routines to adjust raw historical data to reconcile to accounting and financial data for premiums, claims, commissions, and expenses. Aggregate accounting data, such as commission and expenses, can be allocated down to the cohort or contract level in proportion to actual or model generated values. The application has also been designed to fill in the gaps where claims or premium data may be missing by utilizing model assumptions. Under this approach, the gaps are filled with model data and blended in with the actual data.

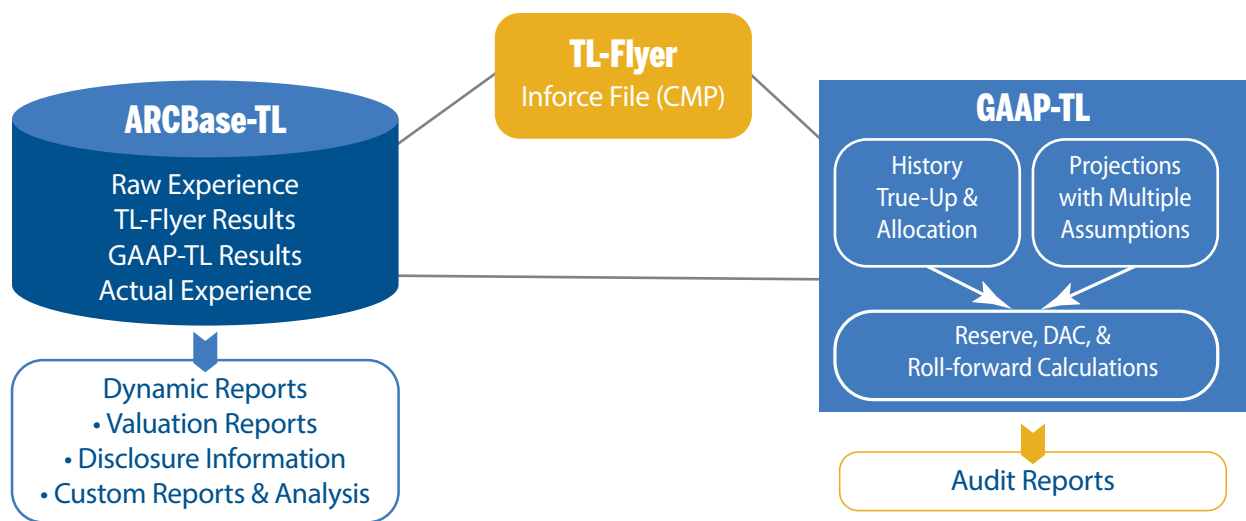
GAAP Reserve & DAC Calculations

The liability for future policy benefits is developed for each cohort by combining the historical monthly premiums, benefits, dividends, and expenses since inception (issue, transition, or purchase) with projections of cash flows under the assumption sets required for valuation and roll-forward reports. The net premium benefit ratio is then updated and the benefit reserve and related items are calculated. This reserve uses discount rates locked in at inception or at transition and is used for net income presentation. A second reserve is calculated using the net premium ratios above and projected cash flows with discount rates set as of the valuation date. This second reserve is used for the balance sheet and other comprehensive income.

DAC balances are generated at each valuation date along with roll-forwards from the prior date.

Reporting

Our valuation process develops a suite of monthly and annual reports for each cohort: policy exhibit by count and face amount, premiums, contract benefits, commissions, expenses, benefit reserves, maintenance reserves, commission DAC, expense DAC, and VOBA. Reports cover key metrics over time such as net premium ratios, amortization rates, mortality rates, lapse rates, and interest rates. The reserve, DAC, and roll-forward reports are dynamically generated from the results in ARCBASE and can be drilled down or aggregated at any level in the GAAP hierarchy.



ARC's software solution for GAAP Long-Duration Targeted Improvements is the development of a new reserve and cash flow projection module, GAAP-TL.

GAAP-TL is embedded with the capabilities and logic of GAAP History Builder and also leverages ARC's powerful database, ARCBase, for the management of data and results required for reporting and disclosures.

ARCBase is a SQL Server database designed to store and manage millions of historical policy records each period. It is an enterprise quality, high capacity actuarial data mart.

When partnered with GAAP-TL, ARCBase will handle the unique challenges that GAAP LDTI presents through tools and methodology that manage and continuously improve the quality of data.

ARCBase provides:

- Data Validation
- Actual to Expected
- Reconciliation
- GAAP LDTI Financial Detail
- GAAP LDTI Disclosures
- Policy Exhibits

HOW IT WORKS

Existing CMP files continue to be a required input. The preferred approach for additional data input into ARCBase is to use ancillary records for policy activity and claims transactions. An alternative is to include terminated records on the CMP.

ARCBase contains policy level information, TL-Flyer reserve components, and actual transactions. Next, the "Raw History" is processed and supplied to the history building component for processing.

Premium, benefits, and expenses are projected and grouped by cohort. Assumptions are managed in GAAP-TL with the functionality to view by valuation date and to systematically manage assumption updates for roll-forward reports.

TL-Flyer calculates the point in time statutory reserves for all of the business with results of the valuation run automatically uploaded into ARCBase. In addition to the policy demographics contained on the CMP input file, information from the EXO is added to ARCBase.

Once the history is received, GAAP-TL will allocate and "hole fill" using the actuarial assumptions supplied by the user. This process will produce the "Reconciled History" which will be used by the GAAP-TL module for its reserve calculations.

GAAP-TL uses the Allocated History information for its calculations. Results from each GAAP-TL valuation period are stored in ARCBase which maintains the history from valuation period to valuation period.

Since 1987, Actuarial Resources Corporation (ARC) has been providing both software and consulting to life, annuity and health insurers, and reinsurers. Our professional staff includes experienced Fellows of the Society of Actuaries, backed up by actuarial staff using advanced software tools and leading-edge technology.

ARC's software solutions have evolved over the years to support new regulations and will continue to do that into the future. With the US GAAP Long-Duration Targeted Improvements (LDTI), our goal is to design a process to efficiently perform the necessary calculations to meet the requirements, minimize the impact to our existing customers, and to make the implementation of the software to new customers as efficient as possible.

Our solution leverages many of our existing applications to support the LDTI calculation data requirements for FAS 60 traditional business.



Actuarial Resources Corporation

6720 W. 121st Street, Suite 200 • Overland Park, KS 66209

Phone: 913.451.0044 www.arcval.com