



# PROPHET DATA CONVERSION SYSTEM – COLLECTING, REFINING AND CONSOLIDATING INPUT DATA

## INSURANCE | Risk Management

Before any modeling process is run, the necessary data, in the form of tables or model point files, must be collected and formatted. Insurers typically store this information in a range of different systems and formats. In many cases, the amount of data involved can be enormous, including details on every policy and every product sold by the organisation, financial accounting data and information about the assets held. Increasingly regulators are getting involved in this process, asking to see the provenance of data being passed into the modeling process.

To reduce model execution times, insurers often use this collection process as an opportunity to rationalise the data, and to identify appropriate grouping methods. This grouping process needs to be documented, as part of the model documentation process. At FIS, we understand this means that our data conversion process needs to:

- Convert from a wide range of input sources into the Prophet model point format
- Support extensions to allow clients to deal with their own file layouts
- Identify, and potentially correct, errors in the input data before passing it on to Prophet
- Support grouping of data by a range of factors, for example age bands and sum assured ranges
- Retain traceability of data from source to Prophet input file

### Managing the flow of data into Prophet

The Data Conversion System enables you to extract data from files and databases and to transform its content and format. It produces model point files for use within Prophet Professional or Prophet Enterprise from your own company policy data, as well as tables which can be further processed by Glean, an experience analysis and data mining tool and part of the Prophet actuarial modeling solution.

With the Data Conversion System, you can validate and clean your data using built-in functions which you can tailor precisely to your needs.

The Data Conversion System can produce files in a variety of general and Prophet-specific formats so that you may process, analyse and report on your data. You can produce data files specifically for Prophet processing, including per-policy model point files for use in seriatim Prophet calculation runs and grouped output model point files for use in grouped runs.

### Validation and adjustment of input data

The Data Conversion System is able to compare input data values against ranges of allowed values, and apply user-defined validation rules where appropriate – for example, rules to check percentages sum to 100%.

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Where a validation rule is breached, the Data Conversion System can optionally fail the whole process until the end user is able to correct the error at source, or apply a pre-defined correction process to allow the dependent modeling calculation to proceed without delay.

Data can be adjusted in a number of ways during the conversion process, for example:

- A range of formats, including CSV, database and existing model points, can be converted into standard ASCII
- Using lookups from other files, e.g. product reference numbers can be converted into their corresponding Prophet product names by looking up a mapping table
- Data from multiple sources can be combined into a single input file, e.g. policy increment details can be read from an additional policy data file

Errors and corrective actions are documented in the audit trail produced during the conversion process.

## Data grouping speeds model execution time

The large number of policies issued by insurers means that the calculation times of their actuarial models can often be extremely long. To reduce this time, the policy data can be grouped into similar data classes – for example, grouping by policyholder age range or issue dates. This process can significantly reduce execution times for the models, but as the choice of grouping may affect the results, the audit trail of the grouping chosen for a particular run is vital.

## Data reconciliation reports

As part of the audit trail produced by the Data Conversion System, there are a range of summary reports which describe the type and quantity of data which has been processed. The reports have value beyond audit and reconciliation as they give a clear and accurate picture of the size and mix of the amount

of business at selected levels, for example, by product and sales channel.

## Benefits of the data conversion system

The Data Conversion System is a data cleanser and concentrator, collecting data from a wide range of source systems, validating it, enriching the data content by adjusting and transforming it, and finally grouping it to reduce the data volume passing through the Prophet calculation engine. Using the Data Conversion System with Prophet Professional or Prophet Enterprise brings many benefits, including:

- Reduce the number of errors raised during model runs due to higher quality input
- Accelerate the set up and execution of model runs
- Consolidate data with grouping allowing insurers to reduce significantly the numbers of model points being processed by using a “representative” sample
- Audit the process with a trail that keeps track of the changes made to any data as it is transferred to the model point file (including any grouping operations)

## About the Prophet Data Management Platform

The Data Conversion System forms one component of the Prophet Data Management Platform. The platform links together all the Risk Management products using proven technology to provide a complete solution for insurance risk measurement, risk management and corporate governance, enforcing control of insurers’ risk data from source to report. Process management tools help orchestrate and automate processes while maintaining an audit

### Prophet Data Management Platform



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trial, giving executives the confidence they need to ensure their decisions are accurate, timely and communicated throughout the enterprise. FIS also offer a fully managed service for secure and efficient hosting of all Risk Management solutions.

## About FIS's Prophet

FIS's Prophet is a leading actuarial modeling system that helps insurance and financial services firms develop more profitable products faster, improve risk management decisions, and meet their reporting responsibilities efficiently. Prophet provides comprehensive coverage across life, general insurance, health and pensions for all major insurance markets on a single platform, providing common models, code, assumptions and reporting capabilities, plus end-to-end data management and business intelligence. It offers actuaries an easy-to-use, flexible product design environment combined with a controlled, enterprise-level production environment, enabling the fast delivery of accurate, auditable and clearly presented information to risk managers, senior management and regulators. Prophet can be deployed on-premise, hosted or on the cloud, and is relied on by more than 10,000 users at over 850 customer sites in more than 65 countries.

## Enabling the adaptive enterprise

Sitting at the intersection of technology and finance, FIS is focused on delivering fresh ideas and inventive solutions to help our customers adapt and thrive in an ever changing environment. With a blend of software solutions, cloud infrastructure, global service capabilities and deep domain expertise, FIS is capable of supporting virtually every type of financial organization, including the largest and most complex institutions in the world. For more information, please visit [www.fisglobal.com](http://www.fisglobal.com)