Softdate/z for z/OS: Beyond-2042 Date and Time testing

西暦二千四十二年

Application-significant dates

There are many, many cases in most applications where specific actions need to be triggered on certain dates. For example:

- Specific dates that may require special handling, e.g. Christmas, New Year, 1st July, etc.
- Cyclic dates, e.g. end of week, end of month, end of quarter, end of financial year and so on
- Dates within the life of a loan, investment, policy, contract, etc. - such as payment due, payment overdue, rollover, maturity, etc.
- Life insurances, trauma insurances, children's insurances, superannuation's
- 15, 30, 40, 50 and 100 year mortgages and leases

目前的 2042 以後,

To properly and efficiently test application behaviour on these significant dates it is necessary to use a Date and Time simulation product such as Softdate to simulate all future dates and ensure that correct application processing is triggered.

Regularly, significant events in the life of a business entity such as a loan or policy may occur many years in the future. In fact, these events may occur beyond the current system clock limit supported by current computer systems and software (17 September 2042 for IBM z/OS mainframes and 19 January 2038 for 32-bit Windows and Linux/Unix applications). The unique Softdate DTS (date and time simulation) Data Protection suite is the **only and exclusive** solution that allows you to DTS test at an Enterprise level and now well beyond 2042 with all these current system clocks and software limits.

Typical business examples of date testing critical events

In the life of a typical contractual agreement between the providers, the clients (and sometimes 3rd parties) the computer applications have many different date-based transactions embedded that eventuate over the period of the contractual agreement. These transactions assume date-based payments and guarantees between all parties across a wide variety of insurance policies and financial contracts, often combined together, with decisions mutually triggered on specific dates.

More recently, the arrival of more modern governmental systems requires considerably greater government efficiency with citizen participation and well-being. The state-of-the-art and society demands absolute individual and family life cycles involving pregnancy, birth, education, employment, unemployment, retirement and always in cohesion with health, tax and other mutual obligations between governments and their citizens. It is very much about exact and precise dates and times with time travel testing of so many entwined dates that drive correct results.

Some examples of business transactions that Softdate date-and-time tests into the future:

- Accumulative monthly payments from the client to the provider
- Accidental injury benefits start and end dates to a client
- End of a loan with accumulative adjustments on behalf of the client and/or provider
- Child suffers a traumatic illness start and end dates
- Trauma, e.g. heart attack or a stroke start and end dates

- Permanently unable to work start date and on-going benefit payments
- Terminal illness benefits start and on-going benefit payments
- Early payment for funeral expenses
- New contract with children with dates and times re-occurring

Long-dated contracts

In the case of a combined *life and disability insurance* policy, multiple date conditions exist such as monthly payments to the provider over an agreed number of years with a mutually agreed set of potential results. Each client buys a unique policy over a specific term on how long his or her family needs to be insured. As each contractual period is exclusive, multiple date-based conditions apply. Examples are (a) current age, age of spouse and children (b) when will the children be out on their own and no longer in need of financial support (c) support for a spouse for primary lost income until the client's retirement age, say 65 and only 35 now- a 30-year policy (d) much more.

As insurance fees increase past 50 years old a client may pay more until 65. Coverage past age 70 or so may or may not be attainable. It is clear that there are many real and assumed risk management events driven by dates and times where all contractual business logic needs to be tested.

Life insurance is not a substitute for a *financial retirement plan* to ensure there is enough to live on in retirement; to possibly avoid paying further insurance premiums and these plans are loaded with business date and time logic.

There are of course many exceptions with people starting families late in life, more complex estate-planning issues that will need life insurance beyond the customary retirement age, long- term *owner/occupier and/or residential investment loans* with a variety of loan options, repayment types (e.g. principle and/or interest repayments, special settlement requirements, progressive drawdown period repayments), early termination and many other date associated business logic that must be tested.

Other long-term contracts include for example *Mortgage Insurance policies*, which pay off the balance on a client's mortgage if they die and default, with a wide choice of mortgages with many different date and time conditions that require continuous short-, medium- and long-term date and time testing.

Key points:

- **Today, the years well beyond 2042 are part of millions of computer-based contracts!**
- **Accumulative date–based end results cannot be fully tested without Softdate**
- **Softdate is the only way to minimise business risks all the way to the end of long-term contracts**
- **To eliminate potential date and time logic errors business applications need to be date and time tested together across all event time lines**
- **The Softdate Date and Time Simulation Data Protection Suite is the only exclusive Enterprise solution if your apps run under Windows, Linux/UNIX and/or IBM z/OS**

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