

GemFire Data Management for The Insurance Industry

The many facets of insurance operations have a common denominator in their reliance on data. Whether working with P&C, auto, home, life, or commercial policies, insurers must integrate and consider data from many disparate sources. Data drives operations from new policy applications processing to claims management to auditing and compliance requirements.

One of the greatest challenges in managing insurance operations is making use of the right subsets of information to satisfy local needs. Each computer system and program used in the enterprise calls on only a fraction of the total stored enterprise data. Waiting for data to be found, physically transferred to the requesting program, manipulated and returned to the master store is a significant bottleneck in achieving efficiencies in cost and speed of operations. Data accessibility becomes even more problematic with distributed computing architectures such as grids and blades that physically separate systems and data.

Many applications attempt to overcome the latency issue by calling for their needed data from locally-created data stores. They periodically refresh their data from the master enterprise records, retrieve the elements of use in

their processing, transform it into a format that is expected by the program code, and keep the results in a specialized dataset referenced only by that one application. The CRM system has customer demographics and account status information; the claims system has detailed loss records and event submissions.

Unfortunately, this arrangement creates difficulties at the enterprise level. Each application has unique code that manages local data access and update. If master data record formats or locations are altered, each component application must be reprogrammed. Data in local stores is redundant to master records and may not be synchronized with recent events, transactions, or data updates. As data volumes increase, the load on the processing and re-purposing of data elements for individual application uses goes up as well.

The GemFire suite of products provides a distributed operational data fabric that acts as a high-performance information access and real-time analysis mechanism for applications and systems throughout the business.

GemFire Enterprise, the data platform in the GemFire data fabric, enables large amounts of data to be held in memory, ready for low-

latency retrieval and analysis by multiple programs. It also manages data redundancy by automatically synchronizing distributed data caches stored physically closer to the applications that call on them. Each application refers to the data source as if it were in one centralized location, using standardized access calls that are consistent with other enterprise applications. Client requests are virtualized to find the proper physical location and format for the data.

In the competitive insurance market, a lost opportunity is lost revenue. Companies demand reliability of systems and nonstop access to data at all times. GemFire helps to ensure uninterrupted processing by managing fail-over situations in the event of a lost connection to a local data source. Distributed memory data caches with disk backup and recovery allow systems to continue their work transparently, unaware that data may be coming from an alternate location. Consumer frustration is reduced and revenue opportunities are continually exploited.

The GemFire product suite's Complex Event Processing (CEP) solution, GemFire Real-Time Events, serves a dual role for financial institutions. It monitors transactions as and when they occur to enable real-time decision making and identification of opportunities, exceptions, and warning signs. It also supports correlation with historical data records to find significant events that affect operations. As an application or claim is received, it can instantly be compared to other enterprise data to look for potential fraud/risk analysis, marketing and cross-selling opportunities, pricing opportunities, and many other operational necessities.

The GemFire data fabric is a key foundation component for managing and running effective insurance processes. GemFire works with industry-standard infrastructure software such as databases, messaging systems, application servers, and XML data. Initiatives such as SOA, Web Services and Grid Computing can greatly benefit from a data backbone like GemFire.

The following list gives a brief sampling of a few of the many benefits GemFire can bring to insurance operations.

SAMPLE APPLICATIONS OF GEMFIRE IN INSURANCE

Online Services/Portals:

- Improve scalability and performance of web applications
- Synchronize web-based transactions with data updates in all affected applications
- Recommend products based on consumer demographics, business information, competitive offers, etc.
- Access customer data for effective online policy administration and self-service updates
- Support real-time policy approval and issuance

Risk and Actuarial Data Processing - Grid Computing

- Improve speed of risk computations
- Provide a reliable data grid for process grids to act on large volumes of actuarial statistics
- Guarantee real-time visibility of risk information to other business process like claims processing, policy issuance, etc.

Claims Processing - Business Process Management (BPM)

- Provide a single source and interpretation for claims information as used by service representatives and claims systems
- Support automated BPM and Web Services applications with ready access to all relevant data
- Share data between legacy systems, mainframe databases, and general ledger systems
- Make use of data from multiple sources for intelligent risk management and fraud detection

Underwriting

- Integrate data from policy applications, credit reports, institutional databases, external data sources to make fast decisions
- Set pricing and terms according to calculated risk
- Share data between underwriting systems and associated systems such as CRM and billing

- Compare data from multiple sources to flag exceptions and cases needing additional review

Compliance and Auditing

- Allow high performance access to all decision criteria and customer information used in the underwriting process
- Aggregate data from multiple data sources in memory for faster access and use by auditing, reporting, and compliance systems

Growth Management

- Allow growth of business infrastructure and transaction load volumes by supporting grid and distributed network architectures with no limits on data sizes
- Plan for mergers and acquisitions or technology changes by establishing a standards-based data access strategy that serves applications written in a variety of computer languages

- Enhance reliability and availability of customer facing systems by ensuring that data is available in the event of a source access failure. Reduce customer frustration, increase revenue opportunities
- Manage massive amounts of data from in-house databases, third-party brokers, and agency management systems

Sales and Marketing

- Target customers based on behavior patterns, demographics, and preferences
- Drive real-time marketing based on customer inputs and transactions
- Ensure consistency of offers and pricing between different communication channels



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