gemalto
security to be free

SafeNet Data Protection and Couchbase NoSQL Databases

> Couchbase and Gemalto offer customers a secure and agile solution to the challenges customers face in the new digital economy.

Solution

The digital economy is impacting every industry; with this shift comes the collection of unprecedented amounts of data from operations. Whether it comes from connected devices, or web and mobile applications, chances are it contains sensitive information. The insights gleaned from this data will drive operations and profits; organizations need to be able to handle it efficiently, quickly, and scurely, all at scale. These requirements make implementing security challenging, but fortunately, Couchbase and Gemalto have collaborated on a solution that meets these challenges.

Couchbase Server

Couchbase Server is a leading, high performance NoSQL database used by hundreds of major enterprises to support mission-critical web, mobile and IoT applications. With a flexible JSON data model and a modern, memory-first architecture, it is designed to scale out linearly on commodity hardware, delivering consistent submillisecond latency and high availability, even at extreme throughput rates. Couchbase Server is exceptionally easy to deploy and manage, and its powerful, SQL-based query language N1QL ("nickel") allows developers to easily build rich applications with sophisticated queries.

SafeNet Data Protection Portfolio

Gemalto's SafeNet Data Protection Portfolio secures data anywhere in its flow from creation to storage. Each solution deploys with SafeNet KeySecure, a FIPS validated appliance for centralized encryption key and policy management. The following solutions can be used to secure data in Couchbase NoSQL databases.

SafeNet ProtectFile

SafeNet ProtectFile is a file-level encryption solution that seamlessly and transparently protects sensitive file data in Couchbase NoSQL databases, such as credit card numbers, personal information, logs, and more.

Benefits

Transparent, Strong Encryption
> Apply transparent and automated encryption that secures data in Couchbase databases even as they scale

Apply Ggranular Access Control Policies
> Manage keys centrally in FIPS-certified key manager
> Prevent rogue root administrators from impersonating other users and accessing protected data

Secure Data Archival
> Keep data encrypted and inaccessible to administrators performing back-up and restore tasks

Secure Data Destruction
> Ensure all secured, sensitive data is rendered unreadable in the event destruction of data is required
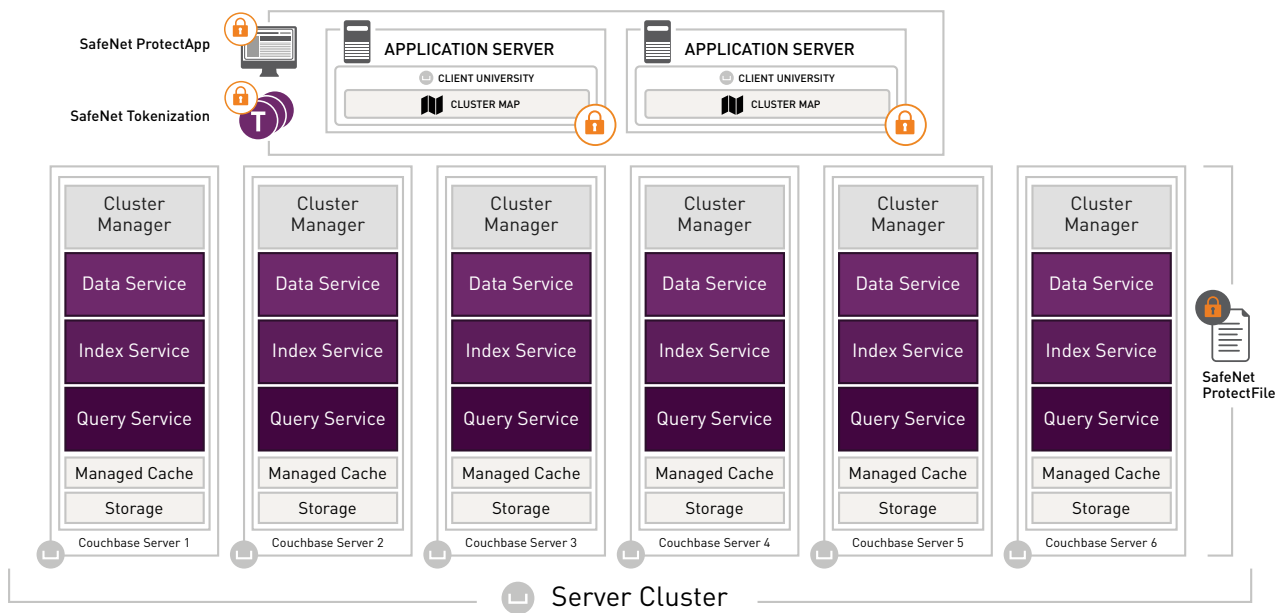
Achieve Compliance
> Track and audit access to protected data and keys
> Demonstrate full data control

SafeNet ProtectApp

SafeNet ProtectApp is an API based application-level encryption solution that lets customers incorporate protection directly into their apps to secure both structured and unstructured data as it is generated..

SafeNet Tokenization

SafeNet Tokenization protects high value information in databases by replacing it with a surrogate value or "token" without changing the database table or the file layout. Systems protected with tokenization are removed from the scope of certain regulations such as PCI DSS.

SafeNet ProtectApp

SafeNet Tokenization

APPLICATION SERVER
CLIENT UNIVERSITY
CLUSTER MAP

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CLIENT UNIVERSITY
CLUSTER MAP

Cluster Manager	Cluster Manager	Cluster Manager	Cluster Manager	Cluster Manager	Cluster Manager
Data Service	Data Service	Data Service	Data Service	Data Service	Data Service
Index Service	Index Service	Index Service	Index Service	Index Service	Index Service
Query Service	Query Service	Query Service	Query Service	Query Service	Query Service
Managed Cache	Managed Cache	Managed Cache	Managed Cache	Managed Cache	Managed Cache
Storage	Storage	Storage	Storage	Storage	Storage
Couchbase Server 1	Couchbase Server 2	Couchbase Server 3	Couchbase Server 4	Couchbase Server 5	Couchbase Server 6

SafeNet ProtectFile

Server Cluster

Key Features

Separate Duties Among Administrators

Separating duties based on business-need-to-know is an important security best practice. It ensures regulatory compliance and secures data from risks posed by privileged users. Both the SafeNet data protection solutions and SafeNet KeySecure have granular access controls that decouple administrative duties from data and encryption key access. Administrators responsible for the management of the data center's physical infrastructure will be barred by access controls from viewing the data in Couchbase databases. Concurrently, SafeNet KeySecure administrators can only manage the security policies and keys on the key manager.

Achieve Compliance

The SafeNet data protection portfolio helps achieve compliance with a variety of regulations that require encryption of data including, but not limited to, credit card numbers for Payment Card Industry Data Security Standard (PCI DSS) compliance, Personally Identifiable Information (PII) to comply with state data breach and data privacy laws, and Electronic Patient Health Information (EPHI) in accordance with HIPAA.

Simplified, Consolidated Key Management

SafeNet KeySecure centralizes key administration behind an intuitive graphical user interface to make management easy. It supports the Key Management Interoperability Protocol (KMIP) so customers can also centrally manage keys from a broad ecosystem of third-party encryption solutions. Consolidating keys – including those used to protect Couchbase data – from across the customer's infrastructure simplifies the global encryption deployment. Simplified and consolidated key management reduces risk by improving visibility and lessening the chance for error while also reducing the amount of time and investment needed to manage encryption throughout the organization.

Easier, Faster Development

Couchbase lets customers use SQL-based queries on NoSQL databases to build applications faster, and with greater agility than if they were to change complex application code. SafeNet ProtectApp comes with sample code that lets developers easily plug encryption into their applications. Together, customers have a joint solution that minimizes development investments but maintains agility around valuable data.

Conclusion

In the new digital economy, organizations must prepare for the rapid pace of innovation and analysis driven by the massive amounts of data they're collecting. The increased opportunity also comes with a real increase in security risk. Couchbase and Gemalto offer organziations a joint solution to meet current and future needs in an efficient, agile and secure manner. For more, visit: http://www.safenet-inc.com/Partners/Couchbase/

About Gemalto's SafeNet Identity and Data Protection Solutions

Gemalto's portfolio of Identity and Data Protection solutions offers one of the most complete portfolios of enterprise security solutions in the world, enabling its customers to enjoy industry-leading protection of data, digital identities, payments and transactions – from the edge to the core. Gemalto's SafeNet Identity and Data Protection solutions enable enterprises across many verticals, including major financial institutions and governments, to take a data-centric approach to security by utilizing innovative encryption methods, best-in-class crypto management techniques, and strong authentication and identity management solutions to protect what matters, where it matters. Through these solutions, Gemalto helps organizations achieve compliance with stringent data privacy regulations and ensure that sensitive corporate assets, customer information, and digital transactions are safe from exposure and manipulation in order to protect customer trust in an increasingly digital world.

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