



Ingrian® Customer Application Profile

Global Payment Processor

EXECUTIVE SUMMARY: Looking at the various alternatives for doing encryption at the database and application level, they found that Ingrian’s product offerings represented the best match for their needs. With Ingrian, the company found a solution that best matched the needs of their demanding, large-scale, and complex environment—enabling the most efficient and secure encryption implementation. Further, because keys are also stored in a single, secure location—the hardened Ingrian hardware appliance—the process of managing keys was significantly streamlined.

Implementation Snapshot

- **Application Type:** Enterprise wide
- **Business Drivers:** Consumer Privacy and PCI Compliance
- **Integration Layer:** Application and Database
- **Type of Data Encrypted:** Credit card numbers, social security numbers, transit routing numbers, bank account numbers
- **Implementation Scope:** Future implementation to span thousands of applications across 3 data centers
- **Implementation Duration:** Ongoing

Ensuring PCI Compliance

As this leading global payment processor looked for ways to ensure that consumer data was secure and ensure the highest level of compliance with the PCI standard, they realized they’d need to augment and expand their use of encryption.

Like other payment processors, the company historically used many different methods of encryption. For example, if a customer uses a POS device, there are specific requirements for ensuring that data gets encrypted in transmission to the authorization switch, for example. Similarly, there are also requirements and standard approaches for when they send data to issuers, and for when issuers send data to them.

However, the organization’s executive team realized that, especially after the release of PCI 1.1, the industry as a whole is going to get increasingly serious about PCI requirement 3.4, which states organizations must “render PAN, at minimum, unreadable anywhere it is stored”.

In response, the organization’s security team wanted to encrypt as early as possible in the data processing lifecycle with dedicated appliances that would integrate at the application and database layer. This encryption project was also part of broader, ongoing security initiatives, which included strengthening security through identity management, intrusion detection, logging and monitoring, and more.

Selecting among Encryption Alternatives

Initially, Ingrian products were purchased by a subsidiary of the global payment processor to do SSL-based encryption, so the relationship with Ingrian Networks was one that had been in place for years.

As they looked at the various alternatives for doing encryption at the database and application level, they found that Ingrian's product offerings represented the best match for their needs. With Ingrian, the company found a solution that best matched the needs of their demanding, large-scale, and complex environment—enabling the most efficient and secure encryption implementation. Further, because keys are also stored in a single, secure location—the hardened Ingrian hardware appliance—the process of managing keys was significantly streamlined.

Implementation Approaches

In augmenting security, the payment processor's implementation team essentially took two parallel approaches, one tactical the other strategic.

On the tactical side, they looked at where their biggest exposure was, and felt it was any time data was being transmitted, whether that was having tapes sent to backup facility, having data carried around in a laptop, etc.

Explained the project lead: "We took look at areas of biggest exposure: 'what's going to get us in the media, what we referred to as 'CNN Moments'. Those are kind of events we want to take every measure avoid."

So their initial tactical approach was to do tape encryption, encrypt blackberries, and other devices. To do so, they're using a range of solutions, including storage encryption, device encryption, and software encryption.

Longer term, their strategic approach is to implement at the application level, which ultimately represents the ideal from a security standpoint.

"The sooner you encrypt, the less you have to do from an encryption standpoint further in the data lifecycle," explained the project lead.

"If data is encrypted at application layer, you don't need to worry about tape encryption because sensitive data is encrypted before it gets to tape. When we get a piece of data into our system, that information, will ultimately end up in a lot of different places. By encrypting soon, you gain an enormous amount of protection across the board."

A Model for Data Classification

One of the critical steps in the implementation phase was the development of standards for data classification. In writing security standard for company in terms of which data needs to be encrypted, the project lead used California SB 1386 as the blueprint. Any combination of first or last name and sensitive financial or personal information that can result in fraud needs to be encrypted. Therefore, all sensitive data was encrypted, such as social security numbers, credit card numbers, bank account numbers, and transit routing numbers.

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**— Project Lead,
Global Payment Processor**

Part of a Global Standardization Initiative

Currently, Ingrian is deployed at several data centers in both the U.S. and in Europe. Further, this payment processor is currently undergoing large consolidation and standardization across entire organization. Over the next three to four years, they are planning to go from having 30 data centers to 3. As part of that exercise, the organization is looking to standardize all current development work and optimize around security as part of that process. Toward that end, Ingrian has been adopted as the standard for application and database level encryption.

The Vision: Encryption Services

The company's ultimate goal is to implement an "encryption service" in each data center. Essentially, they want to build a wrapper around cryptographic operations—custom developed middleware that would reside between applications and cryptographic operations.

"The idea would be that, if I'm application developer, and I know I'm going to need to encrypt some of the data that will be used in an application I'm working on, that I'd be able to use a framework of existing code that I could implement that would tie in with the existing encryption infrastructure," explained the project lead. "From a security standpoint, we don't want non-security staff writing security code. In addition, this will also reduce time to market and streamline development cycles."

With the mandate to consolidate data centers, there are huge efficiency gains in rolling out consistent, consolidated use of Ingrian throughout their organization.

ABOUT INGRIAN NETWORKS: Ingrian Networks brings complete data privacy to the enterprise. With Ingrian DataSecure Platforms, organizations can protect critical data from both internal and external threats, and ensure compliance with legislative and policy mandates for security. DataSecure features a dedicated security appliance and specialized software that enables organizations to encrypt critical data in applications and databases. With its capabilities for granular encryption, seamless integration, and centralized security management, DataSecure enables organizations to guard against a range of security threats, with unparalleled ease and cost effectiveness. Ingrian is a privately held company backed by such investors as Globespan Capital Partners, HighBAR Ventures, Menlo Ventures, Partech International, and Prism VentureWorks. For more information, visit www.ingrian.com.

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