

e-Security Initiative at Visakhapatnam Special Economic Zone

**TATA CONSULTANCY SERVICES**

Visakhapatnam Special Economic Zone realized the need to invest in technology that would guard its web-based application against malicious intrusion and unauthorized access or use of information. PKI technology enabled VSEZ exchange confidential and high-value information online without risks of being misused.

| Profile

The Visakhapatnam Special Economic Zone (VSEZ) offers an internationally competitive and hassle free environment for exports.

| Business Situation

During a bid to automate its paper-based operations through a new web-based system of filing and approval of applications, VSEZ felt the need to secure its online environment.

| Solution

A solution based on Public Key Infrastructure and Digital Signature technologies was implemented that created accountability for participants in VSEZ's online transactions. This also ensured that information exchanged in these transactions remained confidential and tamper-proof.

| Benefits

This solution led VSEZ to attain transparency, accountability, and promptness while, limiting the role of middlemen in the transactions.

Referred to as engines for economic growth, Special Economic Zones (SEZ) were set up by the Government of India to augment infrastructure facilities for export production. The Ministry of Commerce and Industry launched the SEZ scheme in April 2000 to provide an internationally competitive and hassle free environment for exports. The Visakhapatnam Special Economic Zone (VSEZ), among the other SEZs in the country, was established under this scheme.

Among its other responsibilities, VSEZ grants licenses and certificates to several Export Oriented Units (EOUs) and SEZ units. In order to eliminate the slow and tedious paper based application filing and approval / rejection process, VSEZ developed software that automated these processes and created a paperless work environment. However, given the sensitivity of the information exchanged in such transactions, VSEZ wanted to ensure its confidentiality and security before the new system became fully functional.

VSEZ wanted to ensure confidentiality and security of the information transferred electronically.

Enhancing security in the systems

An unprotected electronic medium like the Internet introduces several threats to the information transmitted through it. VSEZ realized the need to invest in technology that would guard against malicious intrusion and unauthorized access or use of information. Security became paramount since crucial data related to issuing of licenses and certificates for trade was involved.

Tata Consultancy Services - Certifying Authority (TCS-CA) provided its Managed PKI Services and PKI-Enabling Solution to fulfill VSEZ's information security requirements. While the Managed PKI Services provided a quick and efficient way of leveraging TCS-CA's secure infrastructure for issuing Digital Certificates to VSEZ's clients, the PKI-Enabling solution made VSEZ's software capable of recognizing and using Digital Certificates and Signatures to enhance the security of online transactions.

Through the Managed PKI Services option, an independent entity joins the TCS-CA Trust Network as a Registration Authority (RA). The RA verifies applications and advises TCS-CA on the issuance of Digital Certificates to authorized personnel. In this case, the responsibility for verification of applications received from EOUs and SEZ units lies with VSEZ, which is the RA.

Easy and Efficient Deployment of PKI

As part of the Managed PKI solution, VSEZ became a Registration Authority (RA) under the TCS-CA Trust Network. Since the solution is completely web-based, it was simple and easy to deploy. All that was required at VSEZ was a couple of desktop computers with Internet connectivity and trusted personnel to perform the secure RA operations.

In its role as an RA, VSEZ would issue digital certificates to SEZs and EOUs. These digital certificates would be used to ensure that all online operations were authentic, confidential and tamper-proof while also providing accountability to all participants.

About eSecurity Group

The eSecurity Group in the Advanced Technology Centre (ATC) carries out research and development in several areas broadly related to secure communication, encryption and PKI (Public Key Infrastructure) technology. In addition to implementing the latest cryptographic algorithms such as Elliptic Curve Cryptography (ECC), engineers at ATC have developed an entire gamut of PKI related products and solutions. Foremost among these is a complete Public Key Infrastructure (PKI) suite called "Dhruvam", for the issuance of digital certificates, generation and verification of digital signatures, and other aspects of secure transactions.

TCS is a licensed Certifying Authority (CA) and is authorized by the Controller of Certifying Authorities (CCA), Government of India, to issue legally valid digital certificates. Through its Trust Network, TCS-CA provides PKI Services to individuals, companies and government organizations.

About Tata Consultancy Services

Tata Consultancy Services (TCS) is among the leading global information technology consulting, services and business process outsourcing organizations. Pioneer of the flexible global delivery model for IT services that enables organizations to operate more efficiently and produce more value, TCS focuses on delivering technology led business solutions to its international customers across varied industries.

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FormSigner makes online information exchange and transactions tamper-proof and confidential with protected message content, authenticated sender-receiver and system-generated proof of delivery.

Protected online communication exchange

TCS' PKI-enabling software, FormSigner, was integrated with VSEZ's applications that took care of online filing, approval and processing respectively.

PKI enabling made the operations transparent and efficient. Business units got to know the status of their applications from the system without having to get in touch with VSEZ. The officers at VSEZ on the other hand, received the applications as soon as they were posted. Online reports made it easy for the Commissioner to monitor the progress of each application. The stringent security measures using FormSigner enabled VSEZ to validate critical information electronically without any fear of trespassing.

PKI technology can be integrated with several kinds of applications, for instance workflow applications with simple form signing, secure messaging, payment systems etc. TCS-CA's security solution was easily integrated with the existing systems at VSEZ as well.

Flexibility with security

The flexibility of FormSigner made it easy to be integrated with the existing applications, thus securing communication for all the parties through digital signatures. This solution led VSEZ to attain transparency, accountability, and promptness while, limiting the role of middlemen in the transactions.

Using PKI and Digital Signature technology, messages and applications submitted electronically are processed in a secure and trusted environment, thus ensuring data integrity, authentication and non-repudiation. Such PKI enabled web solutions enable organizations to exchange confidential and high-value information over Internet and Intranet without risks of being misused.