

# Indian Port Community System

## Decades of Logistics Innovation

Port Community System (PCS) is intended to integrate the electronic flow of trade related document/information and function as the centralized hub for the ports of India and other stakeholders like Shipping Lines/Agents, Surveyors, Stevedores, Banks, Container Freight Stations, Inland Container Depots, Customs Brokers, Importers, Exporters, Railways/CONCOR, Government regulatory agencies, etc. for exchanging electronic messages in a secure manner.

Available Now



### Stakeholder Registration

Join the new digital revolution today in a few simple steps



### Lighthouse Dues Payments

Pay your lighthouse dues here



### Tide Table

View the tidal predictions to help you plan departure and arrival time of your vessels at ports



### Container Tracking

A tracking for your container with the simplest way to know where your container location



### Dashboard for Authorities

Your tool to improve management effectiveness and efficiency

Registered User

**16158**

User Companies

**10598**

Count of Hits (Monthly)

**18265**

Messages Exchanged (Monthly)

**1393030**

# PCS 1x



# The e-Trade Project Community Partners

## EDI Initiatives

- EDI has been accepted as a national e-trade initiative by the Government of India (GOI).
- The project eTRADE aims to facilitate Export and Import led clearances on 24X7 basis integrating international standards and best practices



# What is PCS

**Port Community System(PCS) is a**

- Centralised
- Web Based
- On-line & Real time
- Message Exchange System/Application
- SINGLE WINDOW among Port Community Partners/ Stakeholders

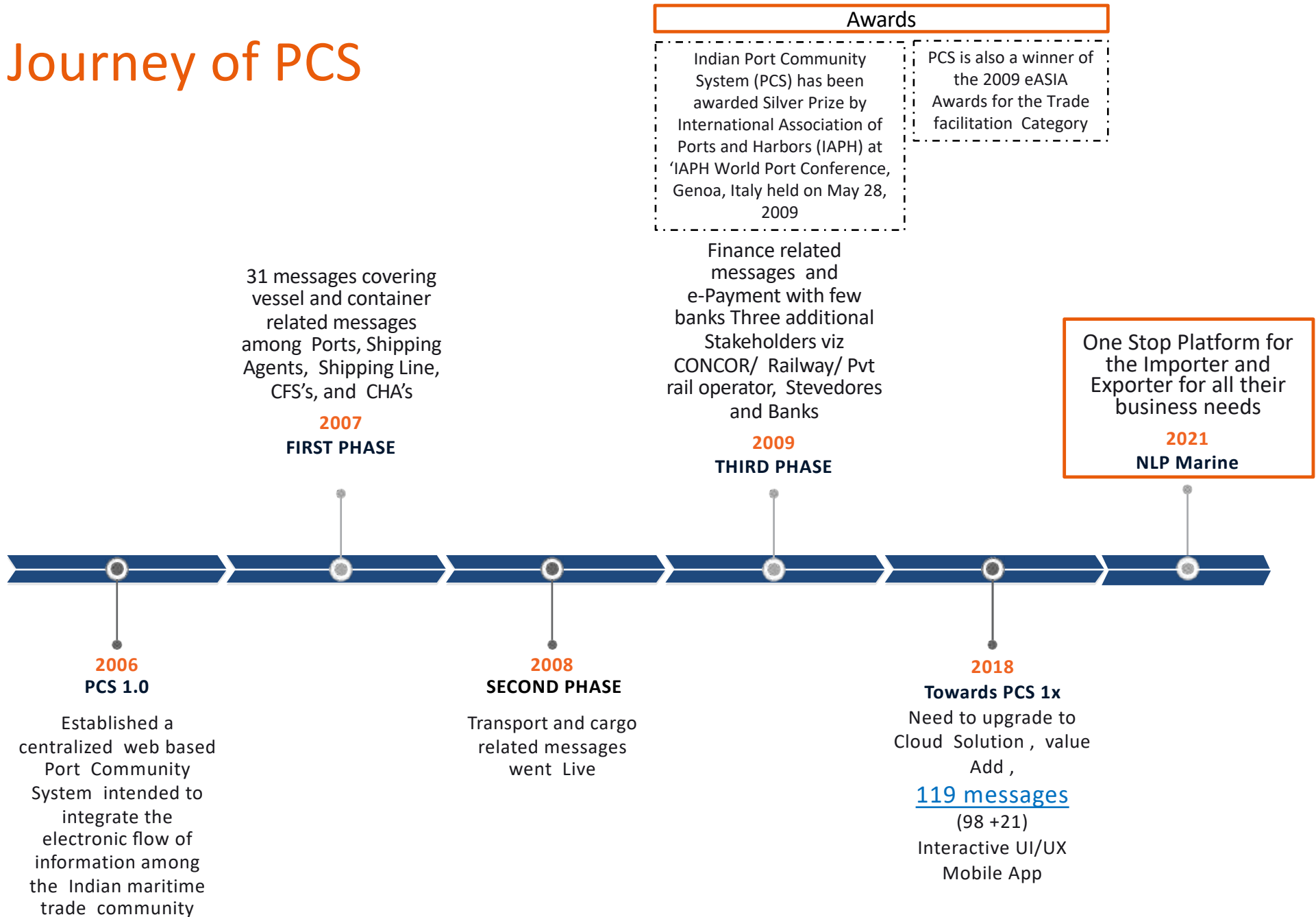
# Objectives Of PCS

To bring in a single platform for Information exchange for all stakeholders in the port ecosystem that fosters transparency and thereby delivers the following business outcomes :

- Reduce transaction time
- Process optimisation
- Eliminate paper
- Benchmark on best practices Pan India
- Standardisation across ports and terminals
- Harmonization of Supply chain processes

Leading to improved Ease of Doing Business and Logistics Performance Index (LPI) indices

# Journey of PCS



# Scope of the PCS 1x Project

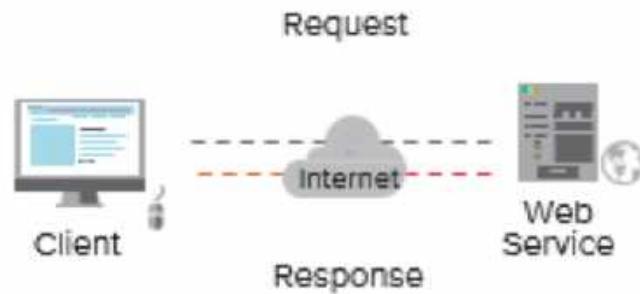
- **Cloud migration** for PCS 1.0 and Implementation
- Application support for maintenance and implementation
- Event based **Notifications and Alerts** at triggers points on key transactions.
- New Development of **Value Adds** to PCS 1.0 modules
- Development of **Mobile Application**.
- Frame design that eases use of value add system (**user experience; user interface**).
- Set up a **central 24/7 helpdesk** with locational support
- **API approach**
- **Payment Gateway and Aggregator**
- **B2B and B2G**
- **Latch-on facility** for various products available in market

# Features of PCS 1x

- **Customized Dashboards** for each stakeholder; for e.g., providing a customizable report to management teams of shipping line highlighting vessel performance (throughput/loading time/discharge time or time taken to exit the berth)
- **24/7 summary** of all declarations made, along with vessel information, container loading details, etc.  
Removes the need to contact the Shipping Agent or Broker
- Get all **Vessel details** like Discharge/ Load summary, difference list, Inventory details, Documentation & Status updates and Berthing/Expecting/ Sailing schedules of vessel
- Real-time, **end-to-end tracking** of containers
- **Mobile app** for seamlessly tracking containers and vessel movement
- **Regular reminders and Notifications** to reduce delays in processing and approval

# PCS 1x – SYSTEM INTEGRATION

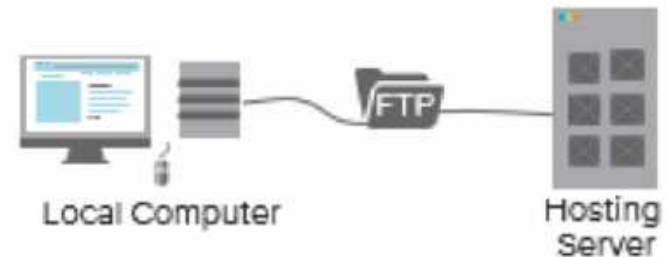
Secure and reliable information sharing for overreaching functionality



## WEB SERVICES

Will share real time information between systems.

It pulls data from other systems when requested.



## FILE TRANSFER PROTOCOL

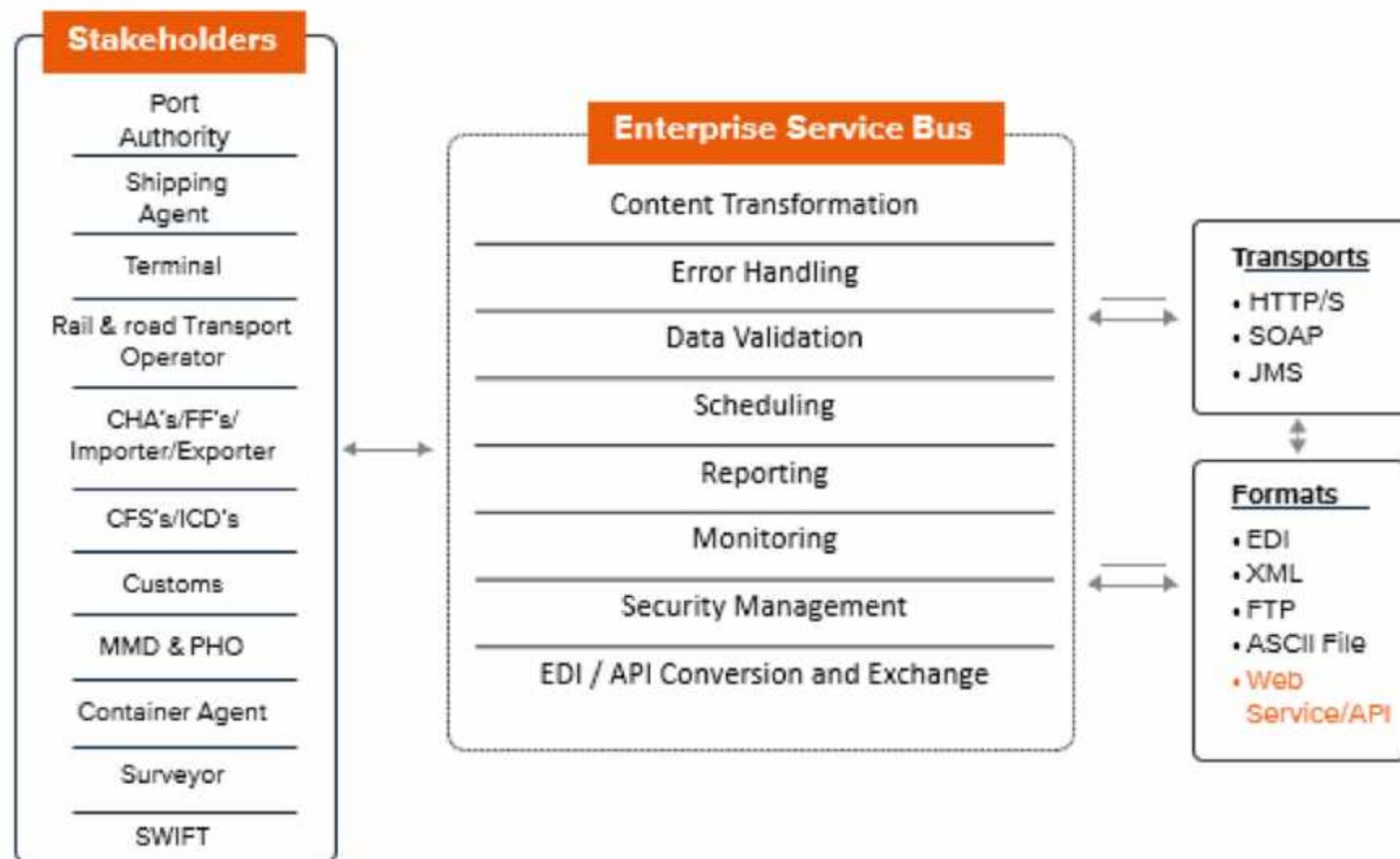
FTP integration will not share real time information.

Data availability will be dependent on the predefined schedule time.

## Information Exchange via EDI (Electronic Data Interchange)

Documents like text, xml, ASCII files can be transmitted between different stakeholders in standardized format

# PCS 1x – COMPATIBILITY WITH STAKEHOLDERS

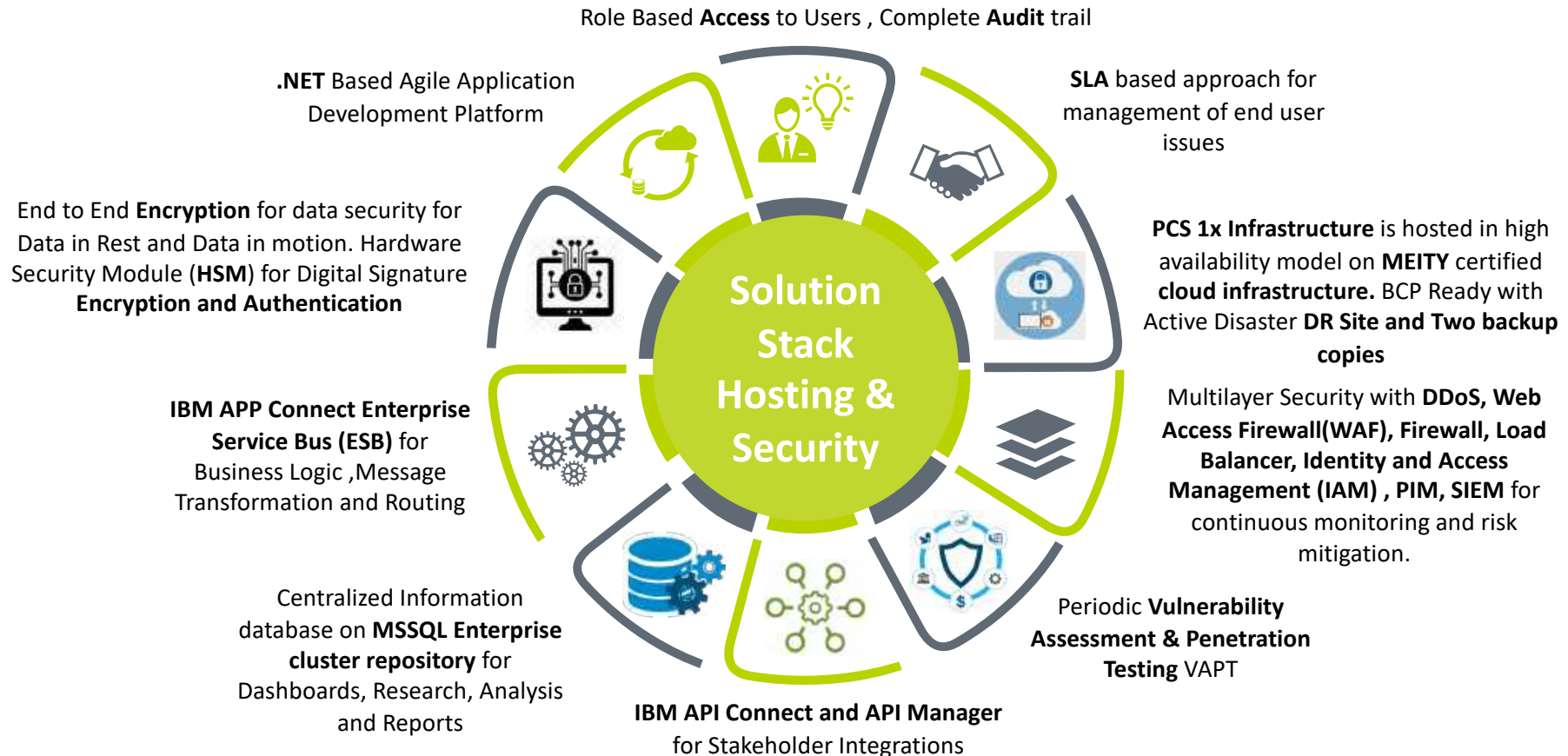


# PCS 1x – USER INTERFACE / USER EXPERIENCE

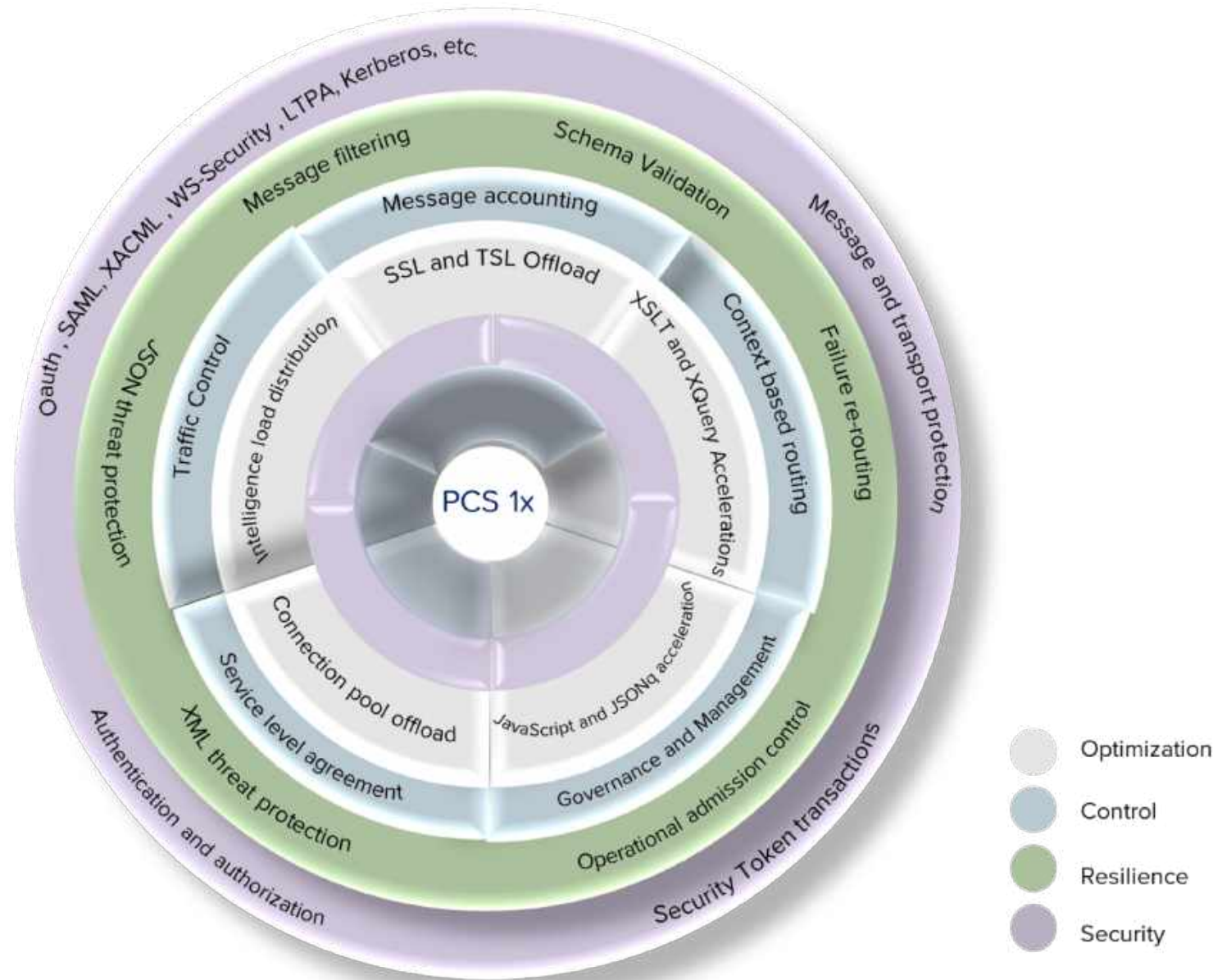
- Simple Interface And Aesthetic
- Consistency And Common Ui Elements
- Purposeful Page Layout
- Strategic Use Color And Texture
- Typography To Create Hierarchy And Clarity
- System Communication
- Defaults
- User Control And Freedom
- Help Users Recognize, Diagnose And Recover From Errors
- Help And Documentation

For Government Projects Guidelines for Indian Government Websites (GIGW) Compliance 2017 has been followed while designing  
User Interface (UI) and User Experience (UX) : <https://guidelines.gov.in/>

# PCS 1x Solution Stack , Hosting & Security



# Data Security - Multi Layered Security Measures



# Data Security

## **Hosted on MeITy approved**

- PCS 1x is deployed on Sify Private Cloud which is a MeITY certified Cloud Service Provider as per Gov norms.

## **Disaster Recovery** - IPA has also put in place a proper disaster recovery process to ensure minimal interruption of business

- Redundancy is built in all production infrastructure to ensure continuous availability of application and its services to all concerned stakeholders.
- Disaster Recovery ( DR ) site is also implemented in different seismic zone as per global best practices in the event, primary data centre goes down.
- The infrastructure is configured for an active fail over to DR Site

## **Vulnerability Test : VAPT**

- Conducting periodic VAPT for ensuring that the systems are tested for vulnerabilities.

## **Privilege Access Management (PIM)**

- DB Access only from console at IPA
- All accredited and identified stakeholders are defined with roles & responsibility duly identified & approved by IPA
- A well defined KYC process is implemented that is authorised by IPA , ports and facilitated by respective stakeholder associations.
- Logical Access to system's data is as per IPA approved role based access control matrix and as per needs of respective transactions and corresponding stakeholders
- Ensure authorised access with double check i.e. Captcha authentication

# Data Security

## SecureLayer7

Time and Again, Securing you.

**Customer Name** Portall Infosystems Pvt. Ltd. (On Behalf Of Indian Ports Association)  
**Site Name** PCS 1x  
**Audit Performed by** SecureLayer7 Technologies Private Limited.  
**Testing Date:** 7<sup>th</sup> August 2020 to 8<sup>th</sup> September 2020  
**Issuing Date:** 6<sup>th</sup> October 2020

**Observation:** The above site has undergone security audit and the identified security risks were reported. The content audited were based on the temporary site URL mentioned above.

**Conclusion:** We have tested the application for OWASP top 10 vulnerabilities. The found vulnerabilities are fixed and site is free from the found vulnerabilities.



Signature with seal  
Sandeep Kamble  
October 6<sup>th</sup>, 2020

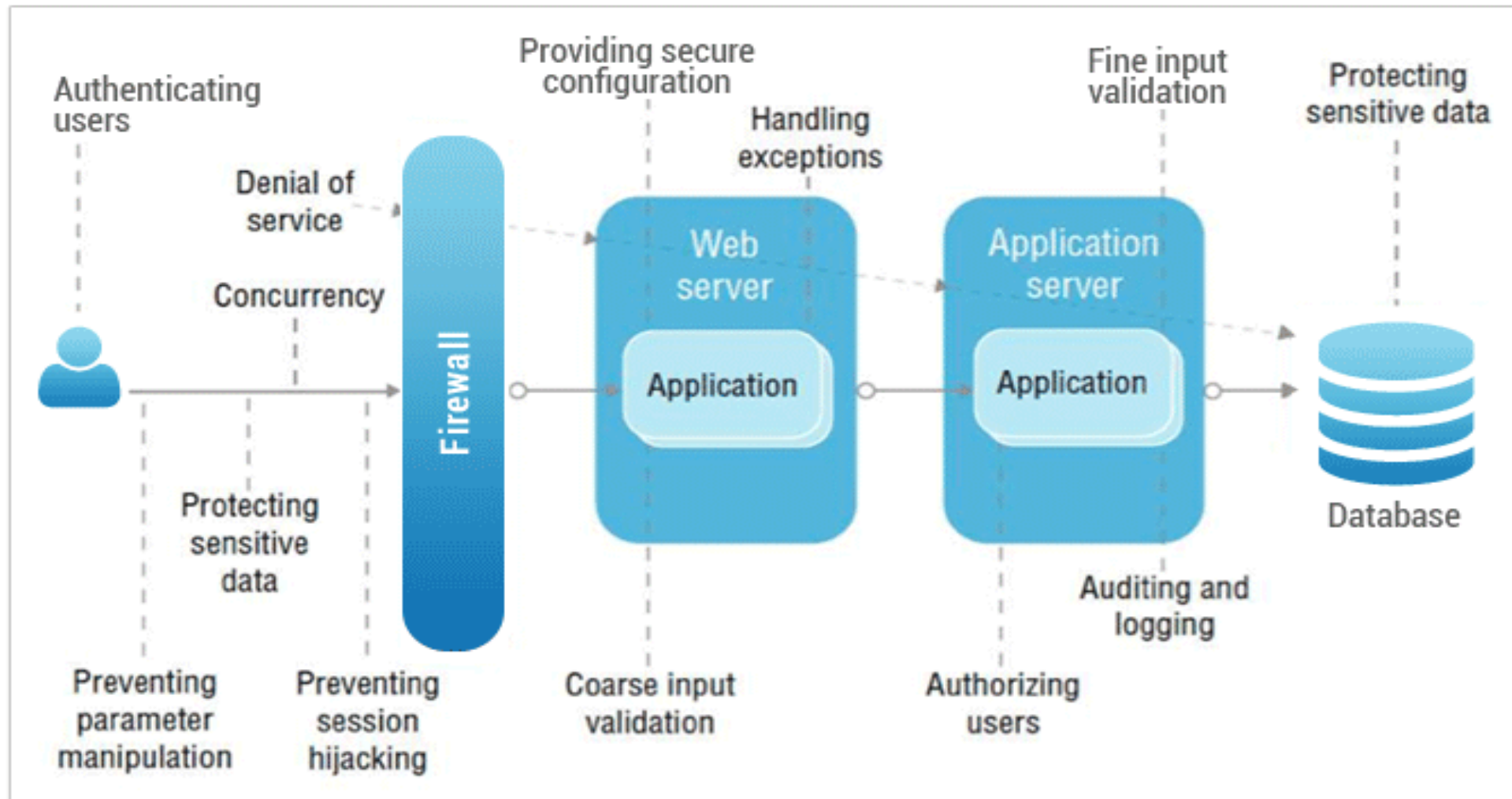


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# Data Security – Secure Architecture



SECURE ARCHITECTURE

# Data Security & Privacy Other Measures



NDA

Agreement Signed with relevant vendors & Service Providers



System access control.

Periodic password change, password complexity and its management at port end



Change management

Management of change lifecycle relevant to port information security infrastructure architecture based on ITIL guidelines.



VAPT :

IPA would be conducting periodic VAPT for ensuring that the systems are tested for vulnerabilities.



Encryption

IPA has mandated encryption of all relevant information in transit as part of contract.



National Critical Infrastructure department

IPA has also involved resources from National Critical Infrastructure department for guidance on security related protocols as per government standards

# Stakeholder Onboarding

Category	Stakeholders	Count as on 31 <sup>st</sup> December 2018	Count as on 31 <sup>st</sup> December 2019	Count as on 30 <sup>th</sup> September 2020
Consumers	Custom Broker / Importer / Exporter	2607	10262	10833
	Bank	0	8	15
	Barge Owner / Operator	0	1	7
	Container Agent	105	559	560
	Costal Cargo Stakeholders	0	0	18
	Freight Forwarder	0	1	20
	Inland Waterways	0	0	4
	NVOCC	0	0	172
	Rail Transport Operator	5	60	50
	Road Transport Operator	5	13	16
	Ship Chandlers	8	30	89
	Shipping Line/Shipping Agent	2817	3228	3388
	Stevedore	95	208	234
	Surveyor	95	208	10
Custodians	CFS/ICD	113	190	314
	Empty Yard Deports	0	1	219
	Port	96	113	158
	Tank Farm Operator	0	0	17
	Terminal Operator (BOT Operator)	25	36	45
Govt Bodies	Customs	1	1	2
	DGLL	0	1	1
	Immigration	0	0	0
	Mercantile Marine Department (MMD)	13	13	14
	Navy/Coast Guard	3	3	12
	Port Health Officer (PHO)	2	2	13
<b>TOTAL</b>		<b>5990</b>	<b>14938</b>	<b>16211</b>

# PCS1x – Onboarded of Non Major Ports

- Onboarded :
  - 7 Non Major Ports in Gujarat (Mundra, Hazira, Dahej, Pipavav, Sikka, Magdalla) and Tamil Nadu (Katupalli) have been on-boarded
  - Maharashtra Maritime Board : 10 Ports registered ( Revdanda, Dahanu , Redi, PNP Dharamtar, JSW Dharamtar, Angre, Bankot, Finolex Ratnagiri, Konkan LNG Ratnagiri)
  - Customs messages flowing via PCS1x
  - Had initial meeting with 'Andhra Ports-INCAP'; Gangavaram , Krishnapatanam , Kakinada/Machilipatanam, Vedanta: Awaiting Feedback

# Latch-on Modules on PCS 1x

Service Provider	Service
ODEX	eDO
JMB Technologies (P-CaSO)	eBL (CargoX and EssDocs), Transport (Return Truck and GOCON) and eVGM
LDB	Container Tracking
Kale Logistics	e-VGM, e-DO and Codex Exports module at Tuticorin location.
Master Marine	eVGM, Form-13
Tradelens	Blockchain Platform for e B/L
Bolero	Blockchain Platform for e B/L

Following Organizations shown interest for Latch On with PCS 1x

- Delhivery – Ocean Freight Solution
- Shipy - Freight Solution
- LogYCode- Airfreight Solution
- Freight Bro – Ocean Freight Solution
- Loadshare- Trucking Solution
- Blackbuck – Trucking Solution
- Trucksuvidha – Trucking Solution



7<sup>th</sup> September 2020

To Whom it may Concern

**Recognition of India's Port Community System "PCS 1X"**

The International Port Community Systems Association recognises the value that PCS 1X brings to the maritime and logistics community of India.

Port Community Systems around the world all contribute to the trade facilitation measures implemented by countries to simplify cross border and Port to Port trade. IPCSA recognises that India as a nation has been working for many years now on its digital infrastructure and enabling of e-governance, and that the development and implementation of PCS 1X with an architecture that is designed in such a way to not only caters for the 12 Major Ports but also for the other 200 Non-major Ports of India.

During the 43rd Session of the International Maritime Organisations FAL committee the Indian delegation made an impressive presentation during the plenary on 'PCS 1X towards Maritime Single Window.' PCS 1X was lauded by the Member States in view of its scope and large magnitude. Member states also acknowledged the Indian delegation with a note of appreciation for sharing India's knowledge, experiences, challenges faced, learnings while implementing PCS 1.x and its business cases which would help other member states in developing their own PCS. As IPCSA, in its role as a NGO at IMO, also appreciated in the sharing of the information and promotion of the Port Community System as a whole.

IPCSA welcomes the continuing development of PCS 1X and the importance of considering connectivity with other port community systems around the world in order to improve the transparency of cross border supply chains.

We congratulate the Indian Government and its efforts on the development of such a comprehensive approach to its digital infrastructure and e-governance.

Yours sincerely,

A handwritten signature in black ink, appearing to be "Hans Rook".

Hans Rook  
IPCSA  
Chairman



A handwritten signature in black ink, appearing to be "Richard Morton".

Richard Morton  
IPCSA  
Secretary General

# NLP Marine

Pre bid queries session scheduled for 9<sup>th</sup> October 2020

THANK YOU

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