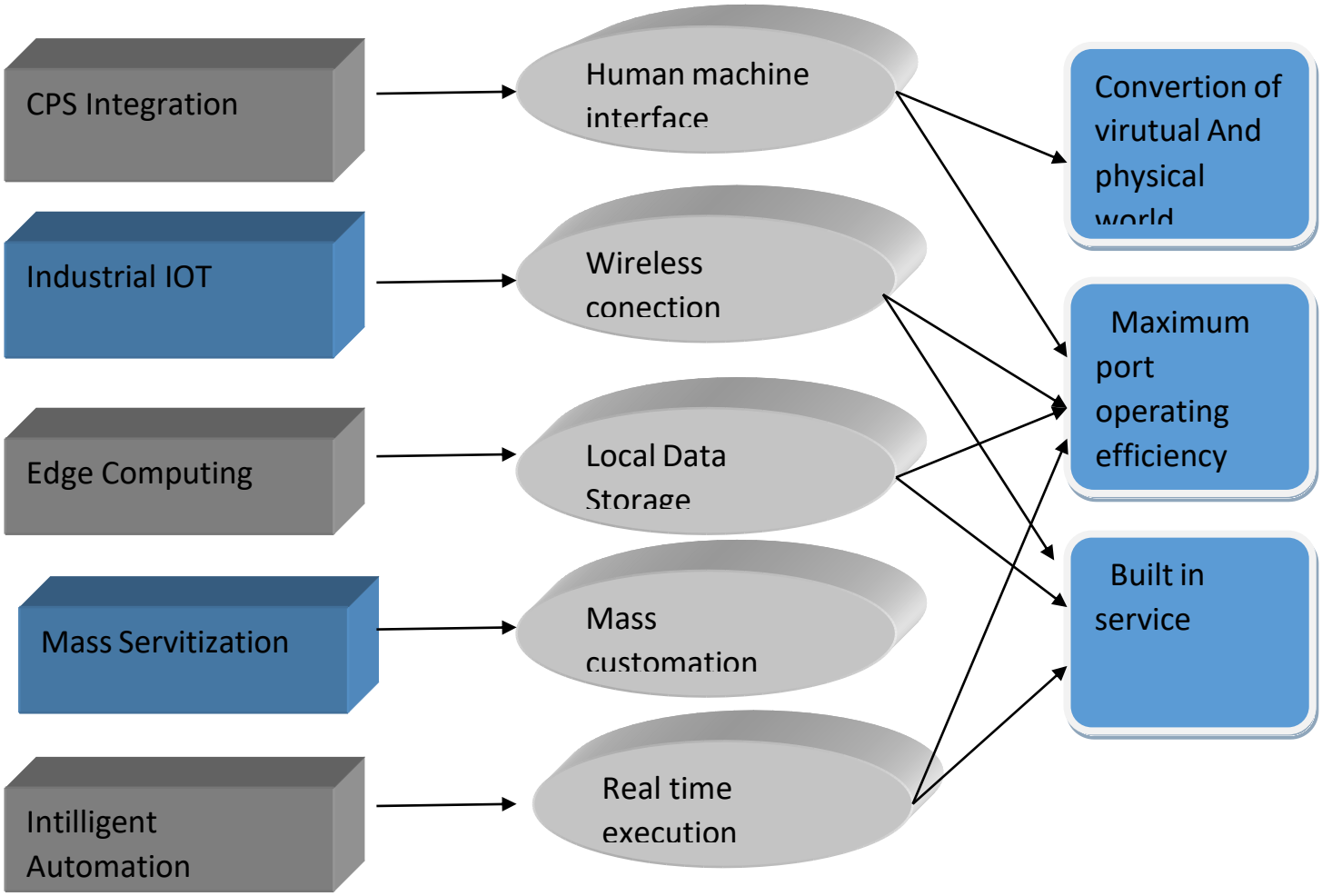
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	October 3
Team ID	PNT2022TMID49243
Project name	Project – Traffic and Capacity Analytics for Major Ports.
Maximum mark	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2


CPS Integration
Industrial IOT
Edge Computing
Mass Servitization
Intilligent Automation
Human machine interface
Wireless conection
Local Data Storage
Mass customation
Real time execution
Convertion of virutual And physical world
Maximum port operating efficiency
Built in service

Port infrastructure and stack holder	Enabling Technologies	Smart port service	Smart port goals
• Road • Rail • Bridge • Parking • Shipping	• Sensor • IoT • Fog Computing • Cloud Computing • Big data Technology	• Port monitoring • Infrastructure Management • Energy management	• Economic Developmet • Energy awareness

Table 1: Technology and Component

s.no	Component	Description	Technology
1	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc	HTML, CSS, JavaScript
2	Application Logic-1	Logic for a process in the application	Python
3	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5	Data base	Data Type, Configurations etc.	MySQL
6	Cloud Database	Database Service on Cloud	IBM Cloudant etc.

7	File Storage	File storage requirements	IBM Block Storage
8	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.no	Characteristic	Description	Tecnology
1	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used

4	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used
7	Appilication	Design uesd	Technology used

Reference:

https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/