

# Mobility Cloud Platform

Simplifying your Cloud Transformation



# Mobility Cloud Platform

## Busting Myths



**Product Launched in Q1-2021**

**Customers On-Board - 25+**



**“No, we are not just another cloud infrastructure provider!”**

*MCP is a launch-pad to rapidly develop & launch solutions by using our scalable high performance multi-tenant architecture, re-usable technology stacks, custom suite of mobility software services, integrated admin portal, data ingestion pipelines, device portfolio & SDKs, multi-cloud environments & complete operational support with required tool chains.*



**“No, Mobility does not mean Automotive applications alone!”**

*MCP is a Connected Mobility IoT Platform – no matter what Connected IoT asset is moving or being tracked – be it a vehicle, sensor, machinery, material or people - you can leverage the MCP Portfolio to add value to your solution*



**“No, you wont lose control of your data or solution with MCP!”**

*The MCP Product Portfolio offers end-to-end services for your business needs but this does not mean it's an all or nothing choice for you! You can pick and choose individual elements which best suit your business needs and integrate them with your solution. MCP will never have access to your solution or customer data – that's a Bosch Promise!*

# Mobility Cloud Platform

Overview of our Services Portfolio

## Multi Tenant Architecture

Ready to use high performance & scalable architecture



## Infrastructure & Environments

Cloud Subscriptions & Infrastructure orchestration



## Third Party Services

Leverage economies of scale with our plug-n-play 3<sup>rd</sup> Party Services



## Customized Mobility Tech Stacks

Pre-tested & pre-integrated tech stacks for mobility use cases



## Mobility Software Services

Custom developed suite of Mobility specific SaaS



## Peripheral Services

DevOps „as-a-service“ & Custom Work Package development



## Business & Technical Consulting

Leverage the Bosch mobility ecosystem & our extensive technical expertise



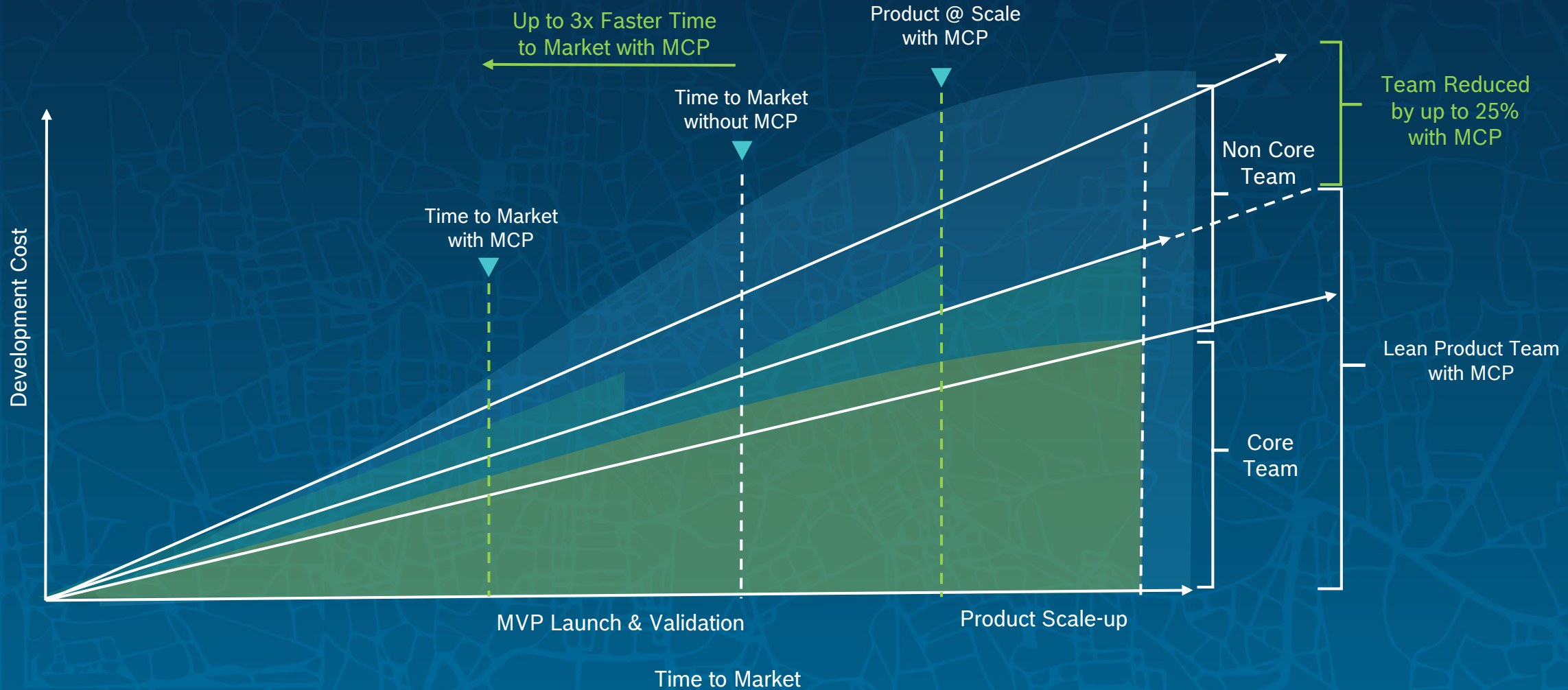
## Operational Support

24x7 Customer Support via Self-Service Ticketing Tool, Toll-free Number or Email



# Mobility Cloud Platform

Enables Faster Time to Market with a Lean Team



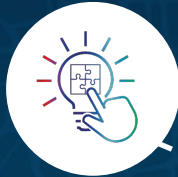
# Mobility Cloud Platform

## Our Digital Ecosystem



### Mobility Store

HW, SW or APIs-whatever you may seek-find it all on our Mobility store



### Vehicle Prognostics

Custom built solutions for intelligent vehicle health monitoring



### Mobility Labs

Looking for Mobility Talent? Welcome to our community of highly skilled contributors



### Mobility Ecosystem Partners

We are enabling synergies across mobility players in the digital domain-come join us!

### Mobility Data Lake

Monetize, Source, Collaborate & Synergize for all things data on our custom-built Data Platform



Renewable Energy

Automotive OEMs



Automotive Aftermarket Ecosystem



Agri-Tech

EV Ecosystem



Retail & Logistics



Connected Fleets



Fin-Tech



Robotics



Wearables & Lifestyle



Industry 4.0





# Mobility Cloud Platform

Opportunities to Gain with MCP



**~37%**

Lower overall product life cycle cost!



**~3x**

Faster overall time to market of new features!



**~25%**

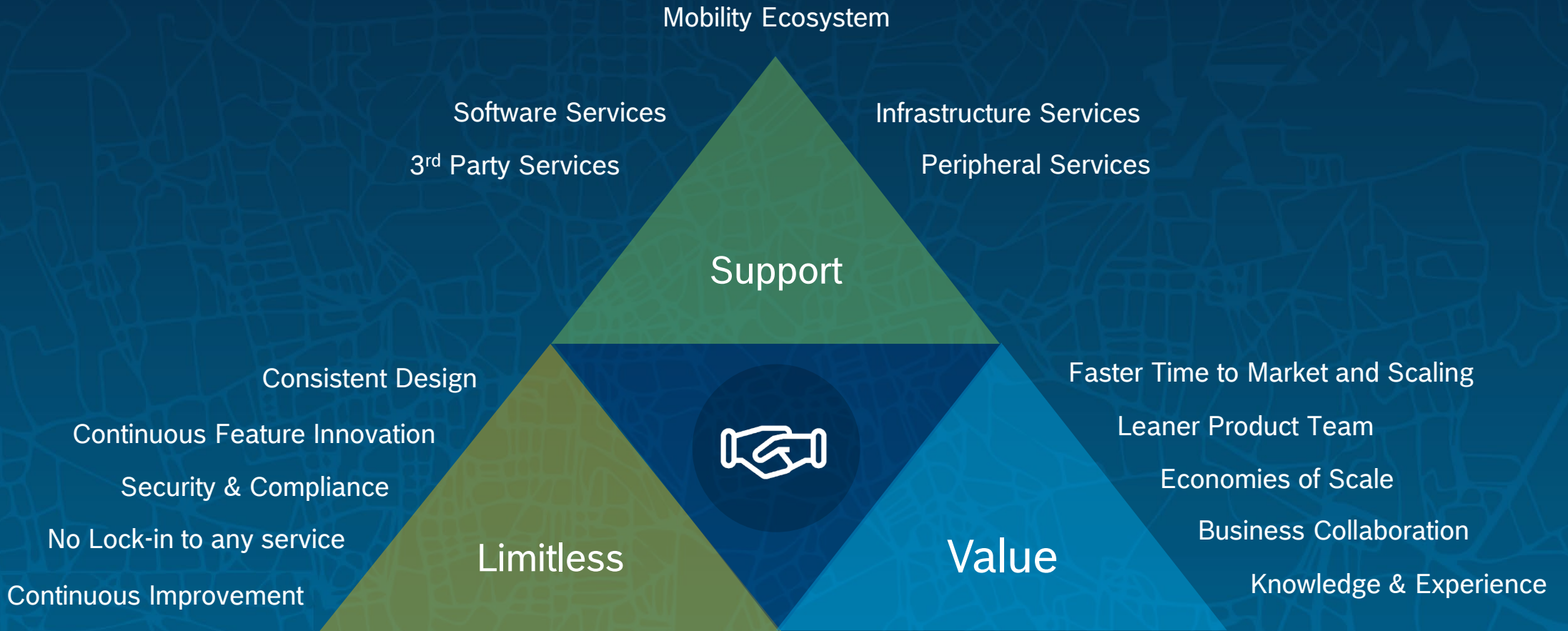
Leaner overall Product / Project team!



MCP Helps Invigorate your Business Potential

# Mobility Cloud Platform

Business Proposition Triangle



Three Dimensions of MCP Enabling your Success!

# Mobility Cloud Platform

## Our Customer Feedback



*MCP has allowed our team to focus on our core business offering without worries of the cloud maintenance & operations.*

### Smart Parking Solution

Feb 2021



*We could optimize our monthly cloud infra costs significantly, thanks to the efforts and experience of the MCP cloud consulting team*

### Logistics Startup

Apr 2021



*We benefitted immensely from the suite of ready-to-use services in MCP, saving our development costs and optimizing our time to market.*

### Fleet Management Solution

July 2021



# Mobility Cloud Platform

Our Phased On-Boarding



## Activity Steps

## Opportunity

Step  
**5**

### Architecture Optimization / New Technology adoption

Optimize current architecture w.r.t cost, scalability & performance and adopt latest technology & tools.

- ✓ Keep pace with latest technology trends
- ✓ Identify problem areas & resolve them before they become an impediment to growth

Step  
**4**

### Peripheral Services

Use MCP's other services like DevOps, Technical Consulting & explore existing Tech-stack / re-usable codes.

- ✓ Enable CI/CD with extended work bench for rapid deployment & best practices
- ✓ Use MCP's knowledge, tech-stacks & re-usable codes for quicker development & realization of product features

Step  
**3**

### Mobility Software Services

Integrate & use MCP's software services build especially for Mobility user cases.

- ✓ Adopt scalable & state of the art non-core sub-systems
- ✓ Scale your solution & features with compliance, security & economies of scale

Step  
**2**

### Infrastructure Operations & Maintenance

Choose from a range of three MCP Support Plans and four SLA classes which suit your requirements the best

- ✓ Segregate development team from operations team; enable the development team to focus on building differentiated core features for end customers
- ✓ Scale your business with SLA driven support team for cloud infrastructure

Step  
**1**

### Lift & Shift to MCP CSP Account

Move your existing infrastructure as-is with little or no downtime from your account to MCP's AWS / Azure account - free of cost!

- ✓ Leverage MCP's enterprise agreements with leading cloud service providers and realise discounts on CSP market price with premium Customer support privileges
- ✓ Upgrade from regional cloud service providers to established global cloud service providers

MCP Recommends a 5 Step Approach to Fully Leverage our Ecosystem.

# Mobility Cloud Platform

Our Services Catalogue



## Infrastructure Services



## Peripheral Services



## Mobility Software Services



# Mobility Cloud Platform

Infrastructure Services







## Cloud Infrastructure



## Licensed Software / Services





### AWS Cloud



-  Enterprise Subscription
-  Enterprise Support
-  Economies of Scale
-  Subscription Management

### Azure Cloud



-  Enterprise Subscription
-  Enterprise Support
-  Economies of Scale
-  Subscription Management

### MongoDB Database



-  Shared License Cost
-  Economies of Scale
-  Monthly Payments
-  Pay post-usage

FREE

No cost



Pay as per usage



Monthly recurring charge



Planned



In progress



Ready

# Mobility Cloud Platform

Software Services - Device Focus







## Device Management







## Certificate Management

### Device Interface Providers




-  Azure IoT
-  AWS IoT
-  3rd Party / Custom IoT
-  Bosch.IO IoT

### Register Device





-  Single / Bulk / Group
-  Tagging
-  Geo-Tagging
-  Android / Linux

### Manage Device







-  Remote Command
-  Tag based
-  Geo-Tag based

### Create Certificate





-  X.509
-  SAS
-  RSA / DSA
-  128 to 512 keys

### Manage Certificate

-  Root / Intermediate / Leaf
-  Renew / Deactivate
-  Dashboard / Alerts
-  3rd party integration

### Device Integration



-  Dynamic installation
-  EOL flash
-  Certificate Attestation
-  Auto-OTA Renew

FREE

No cost



Pay as per usage



Monthly recurring charge



Planned



In progress



Ready

# Mobility Cloud Platform

Software Services - Device Focus



## Firmware Management

Upload Firmware	Manage Firmware	Security Firmware <span style="float: right;">\$</span>
Create Trunk	Manage Firmware	Checksum
Create Version	Add tags	Malware Scan
Upload Firmware	Asynchronous Push	Package Encryption
Configure Link	Synchronous Push	



## FOTA Management

Group Devices	Create Campaign	Device Interfaces <span style="float: right;">\$</span>
Business / Solution	Time Campaign	Azure IoT
Custom Tags	Group Campaign	Bosch.IO IoT
Geo-Tags	Pilot Campaign	AWS IoT
Device States	Consent-based Campaign	3rd Party IoT

FREE

No cost

\$

Pay as per usage

\$

Monthly recurring charge



Planned



In progress



Ready

# Mobility Cloud Platform

Software Services - Device Focus



## C2D & Configuration Management

## SIM Management

C2D Communication	C2D Device Interface	Configuration Data-bricks
<ul style="list-style-type: none"> <li>Standard Protocol</li> <li>Synchronous</li> <li>Pre-loaded Command</li> <li>MCP SDK (Linux)</li> </ul>	<ul style="list-style-type: none"> <li>Azure IoT</li> <li>Bosch.IO IoT</li> <li>AWS IoT</li> <li>3rd Party IoT</li> </ul>	<ul style="list-style-type: none"> <li>Dynamic meta-data</li> <li>Batch / Stream</li> <li>Integrated to data ingestion pipeline</li> </ul>

Procure SIM	Manage SIM
<ul style="list-style-type: none"> <li>Procure SIM</li> <li>Plastic / E-SIM</li> <li>Bootstrap</li> <li>Dispatch SIM</li> </ul>	<ul style="list-style-type: none"> <li>Activate / Deactivate</li> <li>Change Operator</li> <li>Manage with Device Management</li> </ul>

# Mobility Cloud Platform

Software Services - Device Focus



## Data Ingestion Pipeline

Device Interface	Data Processor	Data Outlet
<ul style="list-style-type: none"> <li>Azure IoT &amp; DPS</li> <li>Bosch.IO IoT</li> <li>AWS IoT</li> <li>3<sup>rd</sup> Party IoT</li> </ul>	<ul style="list-style-type: none"> <li>Apache Spark</li> <li>Azure Stream</li> <li>Apache Flink</li> <li>AWS Kinesis</li> </ul>	<ul style="list-style-type: none"> <li>SQL / NSQL</li> <li>Data lake / Storage</li> <li>Rabbit MQ / Kafka</li> <li>Redis / Native DBs</li> </ul>

## Other Services

Scheduler Management	AI - Shield Management
<ul style="list-style-type: none"> <li>Schedule Jobs</li> <li>Simple Workflows</li> <li>Manage Workflow</li> <li>Track Responses</li> </ul>	<ul style="list-style-type: none"> <li>Validate ML models</li> <li>Check ML Vulnerability</li> <li>Protect ML</li> </ul>

FREE

No cost

\$

Pay as per usage

\$

Monthly recurring charge



Planned



In progress



Ready

# Mobility Cloud Platform

Software Services - Application Focus














## Authentication & Authorization Service

### Authentication

### Authorization

### Data Privacy Compliance









 Mobile / OTP	 Manage role	 GDPR (Europe)
 Email / Password	 Manage permission	 PDP (India)
 MFA	 Dynamic multi-tenancy	 Encrypted JWT
 Federated log-in		 Vulnerability Management



## User Management

### Manage Users Portal / API

### Manage Policy

 Search users	 Token policy
 Add / remove users	 Password / OTP
 Activate / deactivate	 Lock policy
 Custom parameters	 Session policy

FREE

No cost

\$

Pay as per usage

\$

Monthly recurring charge



Planned



In progress



Ready



# Mobility Cloud Platform

Software Services - Application Focus



## Notification Management

SMS Notification <span>\$</span>	Email Notification <span>\$</span>	Data Privacy Compliance
Multi-partner system	Multi-partner system	Encrypted PII
Dynamic load balance	Dynamic load balance	No access
DLT & Template approval		90 days audit log
Low cost / SMS		



## Map Management

Google Map Engine <span>\$</span>	Map my India Engine <span>\$</span>	Hybrid Map Engine <span>\$</span>
Google MAP	Map my India	Hybrid Map
Discount 2.5% flat on market price		Low cost

FREE

No cost

\$

Pay as per usage

\$

Monthly recurring charge



Planned



In progress



Ready

# Mobility Cloud Platform

Software Services - Customer Focus



## Insighting Service

### User Insight



- Location insight
- Login insight
- Usage insight
- Demography insight

### Device Insight



- Device state insight
- Data congestion insight
- Frequent disconnect insight



## Report Management

### Usage Report

- Quick Dashboard
- Transaction Report

### Performance Report

- DIP Performance
- Service Performance

### Billing Report

- Billing Report
- Cost Analysis

FREE

No cost



Pay as per usage



Monthly recurring charge



Planned



In progress



Ready

# Mobility Cloud Platform

Peripheral Services - Operations Focus



## Cloud Management



## DevOps Management

Cloud Support	Support Value	\$
3 – Support Tiers	Cost optimization recommendation	
4 – SLA Classes	Security best practices	
Migration Support	Enterprise support on cloud	
Economies of Scale	Use case specific problem solving	

DevOps	DevOps Support	\$
Azure DevOps	Setup & Maintenance	
AWS DevOps	Build Pipelines	
Deployment Scripts	Issue Resolution	
Economies of Scale	App Deployment & Scale	

FREE

No cost

\$

Pay as per usage

\$

Monthly recurring charge



Planned



In progress



Ready

# Mobility Cloud Platform

Peripheral Services - Development Focus



## Business & Technical Consulting



## Extended Work Bench









### Business Engagements

### Technical Engagements

- |  |   |
|--|---|
|  Operational Engagement |  Integrated Tech-stacks          |
|  Tactical Engagement    |  Re-usable codes                 |
|  Strategic Engagement   |  Plug-ins & SDKs                 |
|  Ecosystem Access       |  Lessons Learnt & Best Practices |

### Database Development \$

### Big-data Development \$

- |  |  |
|--|--|
|  SQL Design & Sizing      |  Apache Spark Jobs          |
|  NSQL Design & Sizing     |  Azure Stream Jobs          |
|  Query Optimization       |  Apache Flink Jobs          |
|  DB Performance & Scaling |  Cluster Deployment & Setup |

FREE

No cost

\$

Pay as per usage

\$

Monthly recurring charge



Planned



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Ready

Ready to Onboard for an Exciting Journey?  
Connect with Us



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