MPG Progress Update and Path Forward

DECEMBER 12, 2019

INDUSTRY FORUM DOCUMENT

1 **MPG progress update**

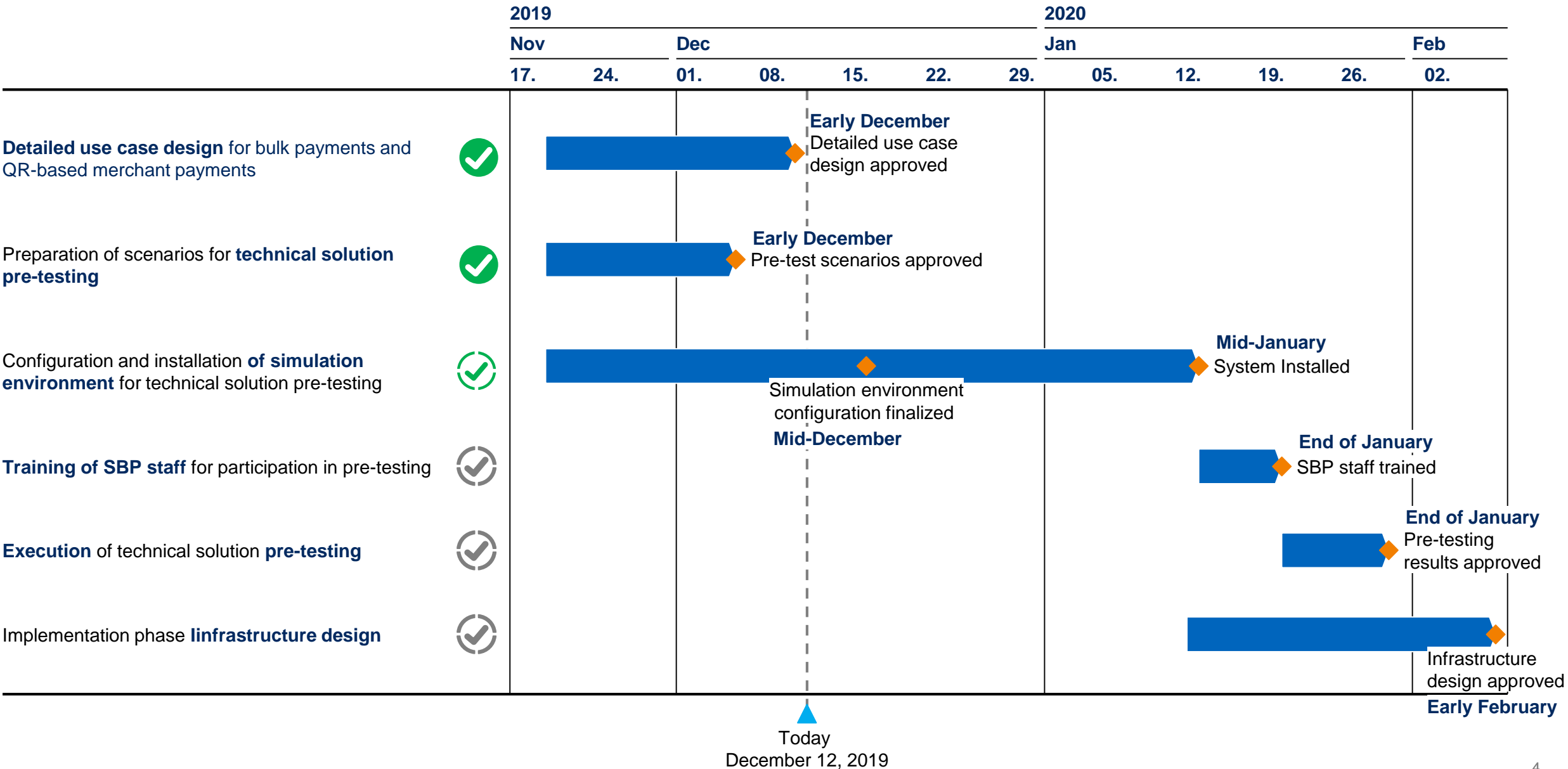**2** **Requirements from participants**
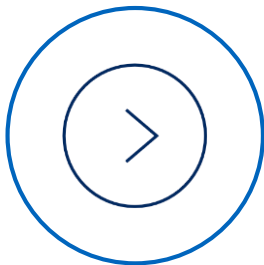
3 **Next steps**

Key MPG milestones

	Milestone	Date
Mobilization phase (proof of concept)	▪ Technical solution **pre-tested**	▪ End January 2020
	▪ **Infrastructure design** finalize and approved	▪ End January 2020
1ˢᵗ use case implementation	▪ **Functional design** for bulk payment use case **complete**	▪ End March 2020
	▪ Detailed **technical integration requirements** shared with participants	▪ End March 2020
	▪ **Participant onboarding** for bulk payment use case	▪ April-June 2020
	▪ **Bulk payment** use case **go-live**	▪ Mid-August 2020
Additional use case roll-out	▪ **P2P** payment use case **go-live**	▪ Mid-March 2021
	▪ **P2M** payment use case **go-live**	▪ Mid-September 2021

High-level MPG mobilization phase roadmap

✓ Complete   ✓ On-Going   ✓ Not started   ◆ Milestones

2019   **2020**

Nov   **Dec**   **Jan**   **Feb**

17.   24.   01.   08.   15.   22.   29.   05.   12.   19.   26.   02.

Detailed use case design for bulk payments and QR-based merchant payments
✓
Early December
Detailed use case design approved

Preparation of scenarios for **technical solution pre-testing**
✓
Early December
Pre-test scenarios approved

Configuration and installation **of simulation environment** for technical solution pre-testing
✓
Mid-January
System Installed
Simulation environment configuration finalized
Mid-December

Training of SBP staff for participation in pre-testing
✓
End of January
SBP staff trained

Execution of technical solution **pre-testing**
✓
End of January
Pre-testing results approved

Implementation phase **Iinfrastructure design**
✓
Infrastructure design approved
Early February

Today
December 12, 2019

4

Banks will need to meet multiple requirements to successfully integrate with MPG (1/3)

Infrastructure and technology

Prepare systems including core banking, online banking, and mobile banking to support **24x7x365 operations**

Ensure **99.9% uptime** of all systems connected to MPG

Send and receive payment orders in **near real-time** (i.e. within 5 seconds)

Prepare systems to process **high transaction volumes**, particularly during peak times

Enable front-end channels to **create and register aliases** for customer accounts and **process alias-based payments**

Networks/ connectivity

Integrate with MPG via an **API gateway**

Process **ISO20022** message formats

Establish a **network connection to primary and secondary MPG sites**, separate from the RTGS connection

Banks will need to meet multiple requirements to successfully integrate with MPG (2/3)

Liquidity Management / Funding

Align funding and liquidity management processes with **multiple daily settlement cycles** (e.g. 3-5 settlements per day)

Ensure that funding and liquidity management process account for **transactions of indirect participants** (e.g. PSP, EMIs, etc.)

Reconcile customer balances **in real-time**

Ensure **continuous transaction processing** while reconciling and settling the previous cycle

Security and fraud management

Complete **all compliance checks within the 5 second time limit** to process a payment message

Enable **multi-factor authentication** across all front-end channels

Enable customer authentication through **encrypted security credentials** (e.g. IMEI)

Enable different transaction and exposure limits based on the **customer risk profile**

Banks will need to meet multiple requirements to successfully integrate with MPG (3/3)

Organizational requirements

Allocate **project budget** and establish **project team** with business and IT representatives

Onboard **technical expertise** required to integrate to MPG

Ensure technology vendors are aligned with **the overall project timelines**

Ensure operational capability to **monitor systems and provide customer service 24 x 7 x 365**

Participants will receive multiple information packages over the course of implementation

	Description	Date
High-level integration requirements	▪ High-level description of technology, business process, and organizational requirements for integration with MPG	▪ December 12, 2019
High-level interface documents	▪ High-level documents outlining an overview of MPG interface approaches	▪ End January

Interface package	▪ Multiple documents covering detailed functional and technical requirements, including:
	  – MPG functional overview
	  – Detailed interface descriptions
	  – Message formats
		▪ End March 2020

System rules and participant agreement	▪ Rules and procedures to be shared with participants to ensure alignment on legal, operational, and technical matters ▪ Participation agreement form	▪ End May 2020
Certification plan and checklists	▪ Details of the Market Rehearsal (certification) process and plan, and description of activities required to ensure successful participant onboarding	▪ End June 2020

Certification will include two phases of testing
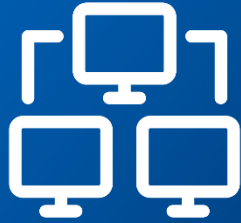
Connectivity/Integration Testing

- Perform connectivity tests with messages (participant - MPG)

- Perform End to End payment flow from and to participant

- Check all types of messages (to/out)

- Access portal for monitoring, reporting and dispute management services

Market Rehearsal

- Follow pre defined daily scenarios

- Simulate typical daily activities (limit management, payment processing, requests, EOD reports, billing, disputing)

- Simulate business day change

- Simulate real business day

- Conduct loading testing

- Check failover scenario – switchover to disaster recovery site

Key steps for participants ahead of onboarding

Ensure project teams have **sufficient technical expertise** and are **fully dedicated to the project**

Adjust and approve **internal procedures** ahead of integration deadline

Verify that message flows contain **all required data** and conform with the **correct format**
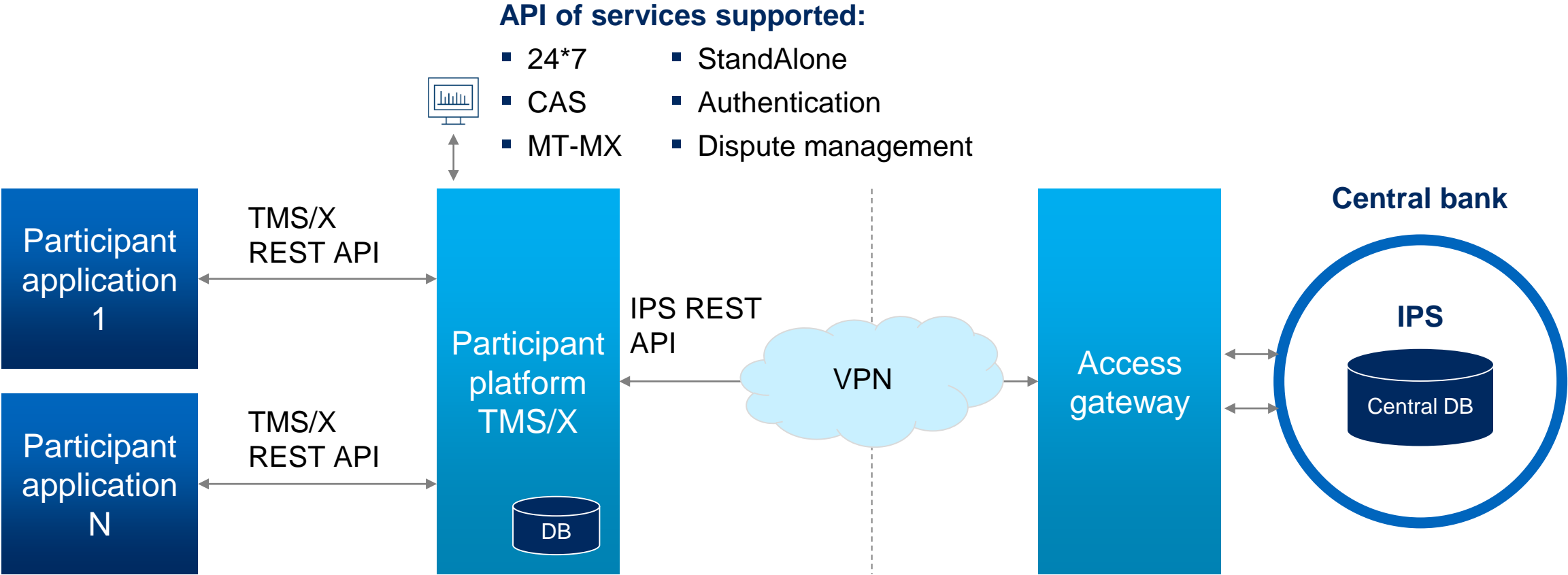
Ensure that message flows are **fully automated**

Ensure availability of sufficient **network bandwidth**

Finalize internal testing for all necessary systems and business processes **ahead of market rehearsal**

CMA solution for participant platform: TMS/X

Participant site

API of services supported:

- 24*7
- CAS
- MT-MX
- StandAlone
- Authentication
- Dispute management

Participant application 1

Participant application N

TMS/X REST API

TMS/X REST API

Participant platform TMS/X

DB

IPS REST API

VPN

Access gateway

Central bank

IPS

Central DB

TMS/X integration platform with 24* 7 support services
Additional component which helps Banks to be integrated

TMS/X has been integrated with Core Banking Systems from different vendors

**iMAL
from Path Solutions**

**Flexcube
from Oracle**

**T24 from
Temenos**

**Flextera
from Diasoft**

**Finacle
from Infosys**

**SCB
DotOpal**

Murex MX

**OpenLink
Findur**

**TCS
BaNCS from Tata
Consultancy Services**

TMS/X has also been integrated with other different proprietary (in-house developed systems) CBSs based on: Sybase, Oracle eBusinesssuite, Microsoft Dynamics ERP

TMS/X references

65% of banks in Bahrain	**75% of banks in Azerbaijan**	**75% of banks in Kuwait**	**90% of banks in Libya**
RTGS/IPS/ACH/ECheques /OpenBanking/WPS/ Correspondent Banking	**ACH/eMandates**	**RTGS/ACH/IPS/WPS/ Mobile Portal**	**RTGS/ACH**
15+ banks in Oman	**Top 6 banks in Jordan**	**Top 4 banks in Vietnam**	**2 banks in Brunei**
ACH	**RTGS/ACH/eMandates**	**IPS**	**RTGS/ACH**

3 banks in Bangladesh	**1 bank in Serbia**	**1 bank in the Seychelles**
RTGS	**RTGS/IPS**	**IPS**

110+ retail banks in 11 countries

Next steps for participants

Evaluate operational and financial implications of integration with MPG

Dec. 2019 – Jan. 2020

Prepare **integration plans** including system upgrade requirements, project team assignments, and high-level budget

Dec. 2019 – Jan. 2020

Onboard vendors for required upgrades, if needed

Jan. 2020 – Feb 2020

Attend **one-on-one follow up consultations** with SBP, to discuss readiness for integration

End of Jan. 2020

The Technical Working Group will ensure open governance and an active role for participants in the development of MPG

Objectives

- Provide project updates, including completion of major milestones

- Problem-solve roadblocks/obstacles to project implementation

- Propose modifications/additions to operating rules, pricing scheme, and system features

Cadence

- The Working Group will convene:
  - Once a month, and last 4 hours
  - *Ad-hoc*, in the event of special situations

Working Group structure

Stakeholder	No. of members	Role
SBP Project Director	1	Chair
SBP staff	2	Project Team reps.
Participant CIOs	8	Industry reps
CMA	2	Technical Advisor
Karandaaz	2	Support team
Total	**15**	

The Technical Working Group will kick off in early 2020 with the participation of 8 industry members selected by SBP