Infrastructure Capacity Tests in Stress Scenarios – Post-Trade Environment

WEBINAR

Nov. 8, 2022

Purpose of the Webinar

To present participants with the indicators and work plan related to **technology capacity management** for the **post-trade** environment in the **Listed B3** market

Presentation of the regulatory framework related to infrastructure capacity

Establishment of the capacity indicators to be used in tests, as well as the metrics considered

Support, guidance and assessment of the capacity tests in stress scenarios

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CVM Resolution 35/2021 – Regulatory framework regarding infrastructure capacity in stress scenarios

– Aug/2019: CVM Instruction 612 published

– Sep/2020: CVM Instruction 612 and related circulars came into effect

– May/2021: CVM Resolution 35 published

– PQO Basic Script

Art. 2 For the purposes of this Resolution, it is considered:

XIV – critical business processes

XV – relevant services

XVI – critical systems

Art. 33. The broker shall:

Paragraph 1 The information technology structure shall be compatible with the volume, nature and complexity of its operations (...).

Paragraph 3 The technological systems used by the broker shall be:

II – (...) tested at an appropriate frequency to verify its operation in stress scenarios.

Art. 38. The broker shall implement and maintain :

I – business impact analysis process to (...):

a)   identify and classify critical business processes

Art. 39. Critical systems are all the computers, networks, and electronic and technological systems

Art. 40. The broker shall:

I – develop and implement policies and practices to ensure the integrity, safety, and availability of its critical systems

CVM Resolution 35/2021 – Regulatory framework regarding infrastructure capacity in stress scenarios

CHAPTER II – DEFINITIONS

Art. 2 For the purposes of this Resolution, it is considered:

XIV – **critical business processes:** processes and operational activities whose unscheduled interruption or unavailability may have a significant negative impact on the broker's business, subject to the provisions of paragraph 1 of art. 38

XV – **relevant services:** services related to critical business processes pursuant to art. 38

XVI – **critical systems**: term defined in art. 39

CHAPTER X – RULES OF CONDUCT

Section I – Duties of the Brokers

Art. 33. The **broker shall**:

Paragraph 1 The **information technology structure shall be compatible with the volume, nature, and complexity of its operations**, in order to preserve customer service even in periods of peak demand.

Paragraph 3 The technological systems used by the broker shall be:

II – submitted to **tests at appropriate intervals**, established in the policy pursuant to art. 41, **to verify its operation in stress scenarios**.

CVM Resolution 35/2021 – Regulatory framework regarding infrastructure capacity in stress scenarios

CHAPTER XI – BUSINESS CONTINUITY PLAN

Section I – General Rules

Art. 38. The **broker shall implement and maintain**:

I – business **impact analysis process** to:

a) **identify and classify critical business processes**

b) evaluate the potential effects of the interruption of critical business processes on its activities

Paragraph 1 In addition to other processes considered critical by the broker under item I, business continuity plans shall cover at least the following processes, if applicable to the broker:

II – **settlement** with the entities managing organized markets

III – liquidation of its customers

IV – **reconciliation and updating** of the positions of its **customers**.

CHAPTER XI – BUSINESS CONTINUITY PLAN

Section II – Critical Systems

Art. 39. **Critical systems are all computers, networks and electronic and technological systems** that are linked to critical business processes and that directly execute or indirectly provide support to functionalities, whose malfunction or unavailability can have a significant impact on the broker's business.

Art. 40. The broker shall:

I – **develop and implement policies and practices to ensure the integrity, safety and availability of its critical systems**

II – establish guidelines for assessing the relevance of incidents

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– PQO Basic Script

The PQO Basic Script is a condition for Participants to access B3's markets. Its items 131 and 138 respectively define the Participant's obligations regarding:

• (a) execution of periodic (annual) capacity tests of its infrastructure in stress scenarios

• (b) implementation and execution of business continuity plan tests, within a maximum interval of one year, in a scenario of interruption to its critical business processes, which include minimal processes such as liquidation with clients and B3

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Indicators

- **Conception**
  - A Capacity Working Group was created, composed of the participants of the Advisory Committee to establish the scope, capacity indicators and follow-up of activities
  - B3 set out a series of premisses and a list of indicators, among which six were selected for mandatory execution

- **Indicators**
  - Are the **metrics** used to **assess the performance** of the systems, seeking to pre-empt any problems that might impact post-trade processes, contemplating liquidation, custody, risk management and registration activities

- **Scope**
  - Post-trade infrastructure and processes, including:
    - Capture, give-up, allocation, position control, securities lending and liquidation
    - Custody and processing of corporate actions
    - Risk, margin calculation, mocks, risk assessment for position and collateral changes and margin call
    - Registration processes, such as the creation and maintenance of accounts

- **Premisses**
  - Minimum **frequency** of tests: **annual**;
  - **Criterion**: **Peak** volume **observed at each institution (since Jan/2020)** + **increment** defined by the participant
  - Participants must **construct/use their environments and their injectors/mocks together with their suppliers**
  - Participants must **monitor the indicators and establish a business continuity program** to assure provision in cases with higher volume than those tested
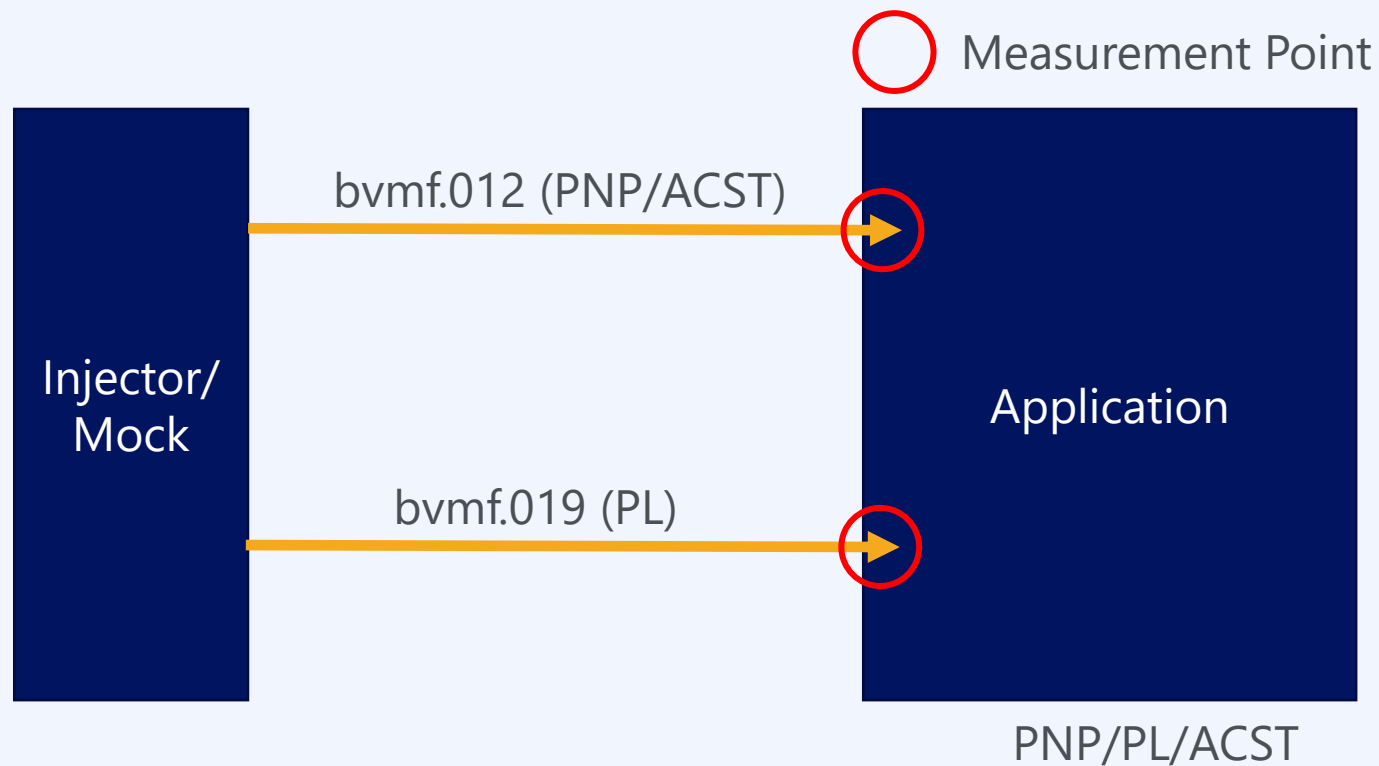
Mandatory Indicators

Indicators	PNP*	PL*	ACST*
Trades Captured on one day Capacity to receive a capture message (PNP/ACST- bvmf.012 or PL - bvmf.019) and process the trade capture in its application	X	X	X
Trades allocated on one day Capacity to allocate trades via message (bvmf.013) and process the confirmation message (bvmf.014)	X	X	
Accepted/rejected give-ups on one day Capacity to accept/reject give-ups via message (bvmf.016) and to process the confirmation message (bvmf.014)	X	X	
Processing of Conciliation files on one day Capacity to process the conciliation files (BVBG.012, BVBG.013, BVBG.014 or BVBG.081) requested by the bvmf.018 or bvmf.186 messages	X	X	X
Lending contracted on one day Capacity to request the completion of a securities lending pre-agreement or transaction through the bvmf.127 message and to process the confirmation message (bvmf.128, bvmf.192 or bvmf.193)	X	X	
Early liquidation of securities lending agreement on one day Capacity to request (bvmf.131) the early settlement of a securities lending agreement, to process its partial status receipt (bvmf.133) and to process confirmation of the request (bvmf.192)	X	X	X

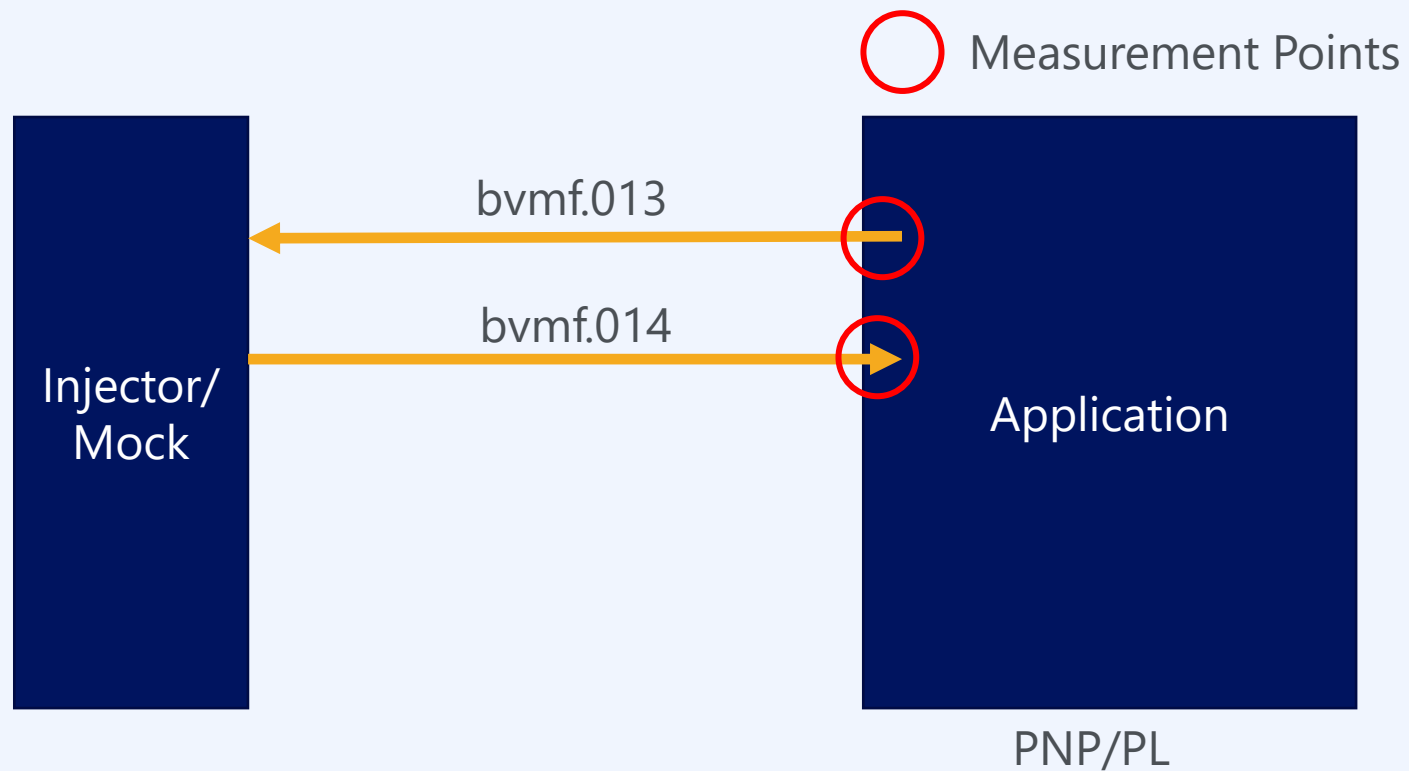*PNP – Full Trading Participant / PL – Trading Participant / ACST – Custody Agent

Mandatory Indicators - Details
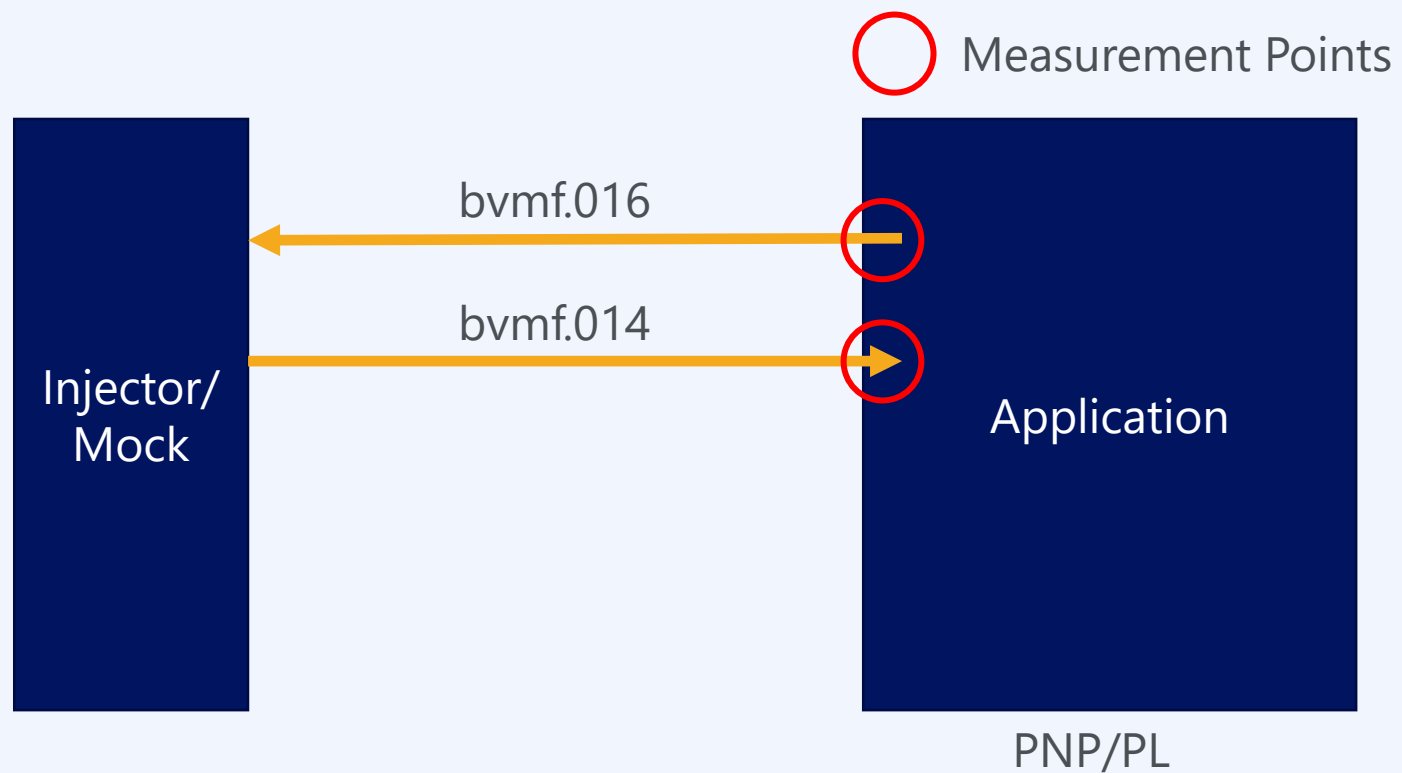
- **Trades Captured on one day:**

Injector/Mock → bvmf.012 (PNP/ACST) → Application (Measurement Point)

Injector/Mock → bvmf.019 (PL) → Application

Application: PNP/PL/ACST

Mandatory Indicators - Details
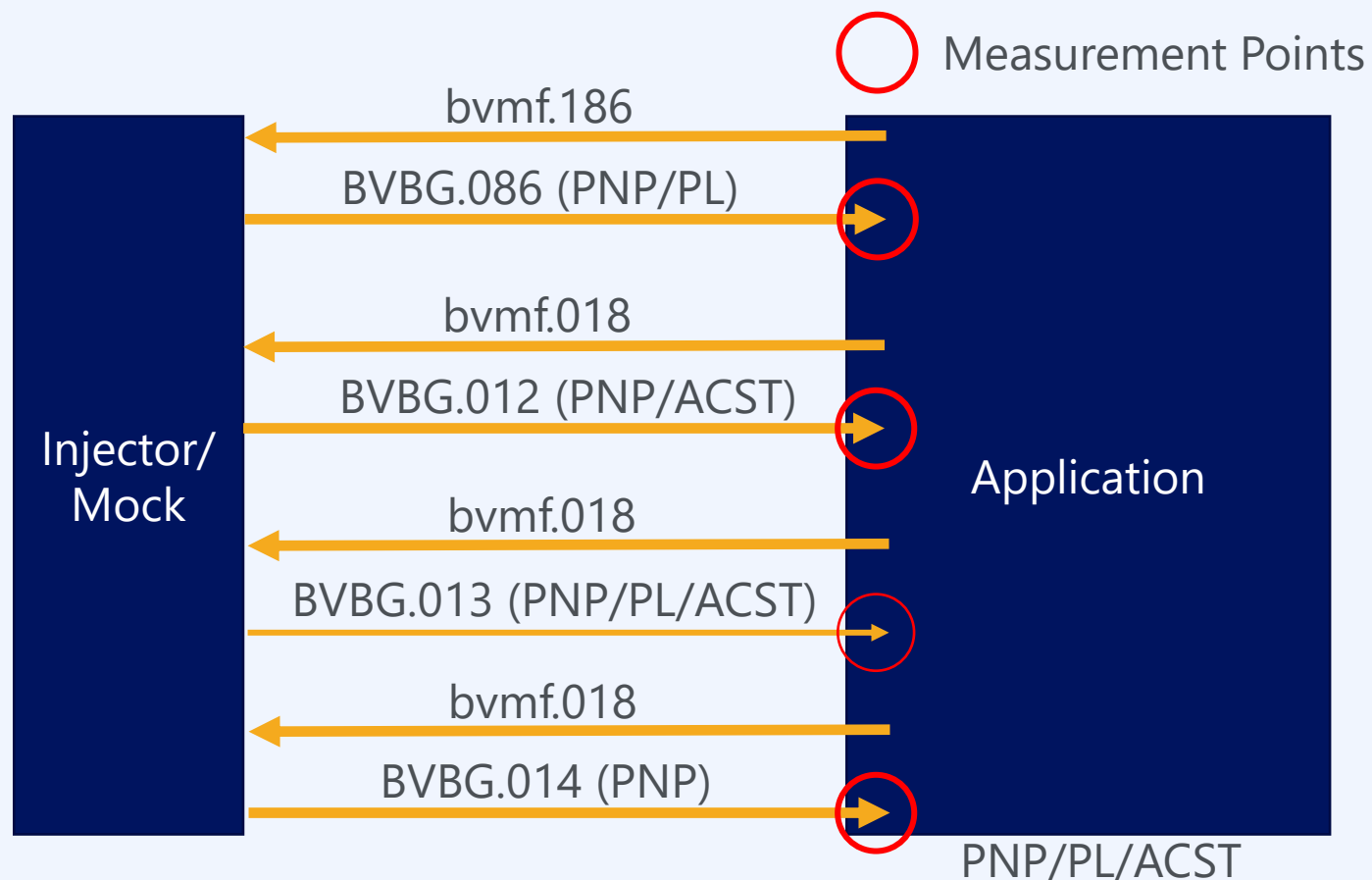
- **Trades allocated on one day:**

Mandatory Indicators - Details
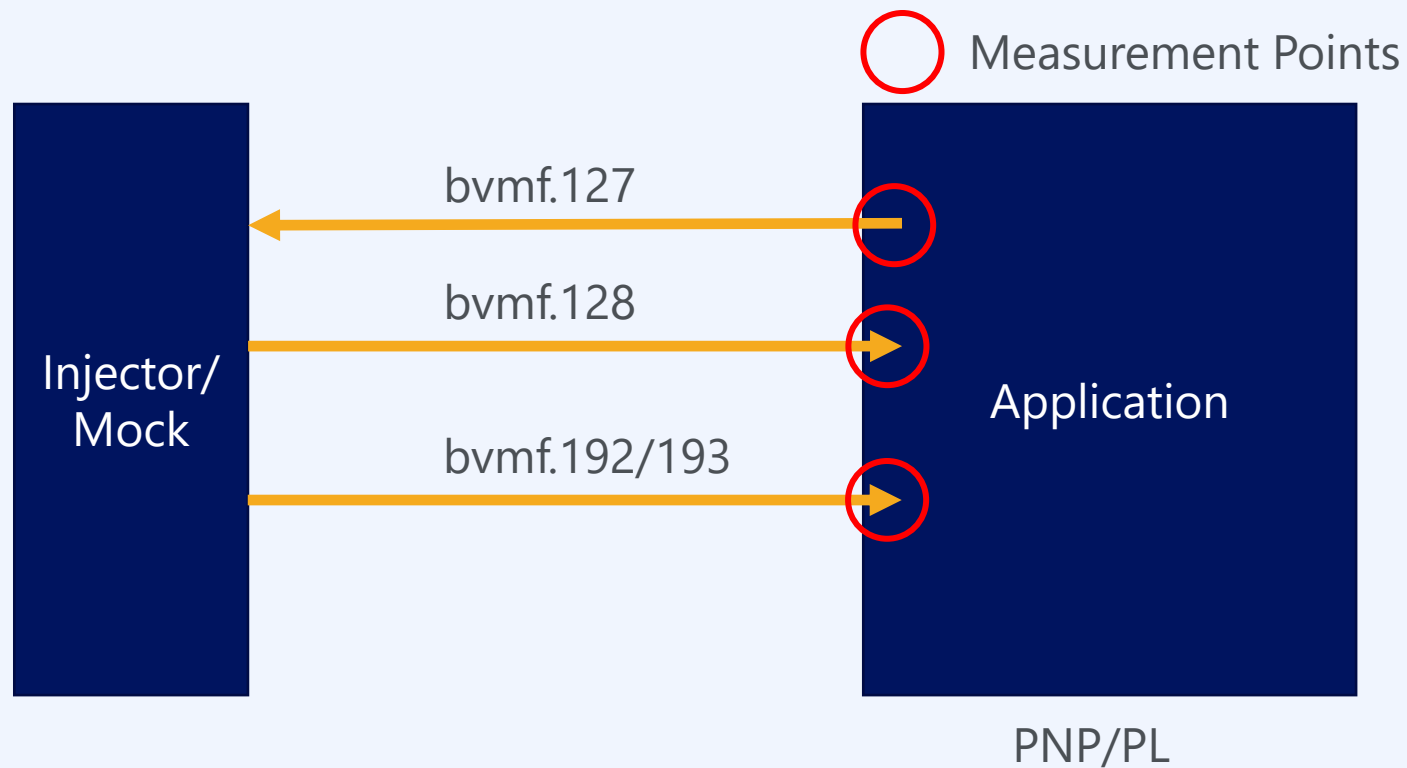
- **Give-ups accepted/rejected on one day:**

Mandatory Indicators - Details

- **Conciliation file processing in one day:**

⚪ Measurement Points

Injector/Mock → **Application**

- bvmf.186
- BVBG.086 (PNP/PL)
- bvmf.018
- BVBG.012 (PNP/ACST)
- bvmf.018
- BVBG.013 (PNP/PL/ACST)
- bvmf.018
- BVBG.014 (PNP)

PNP/PL/ACST
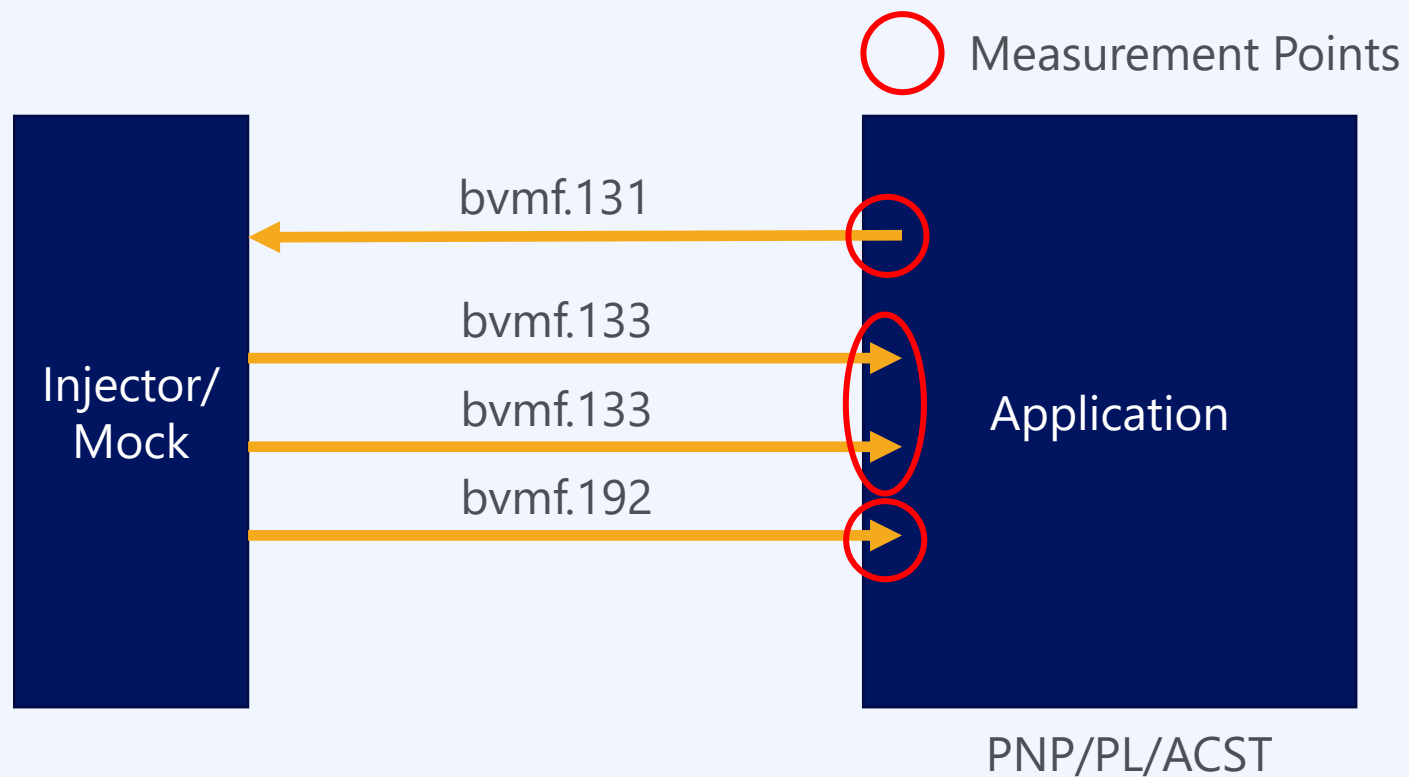
INFORMAÇÃO INTERNA – INTERNAL INFORMATION

Mandatory Indicators - Details

- **Lending contracted in one day:**

Mandatory Indicators - Details

- **Early settlement of securities lending agreements in one day:**

Non-Mandatory Indicators

- **Participants will execute non-mandatory indicators as required and shall follow the premisses mentioned previously**

Indicators
Maximum number of open positions (futures, options, forwards and securities lending)
Maximum number of covering/shorting actions
Maximum number of cash liquidation entries (BVBG.021 treatment)
Maximum number of position and collateral transfers
Maximum number of asset transfers in the day
Maximum number custody positions (processing of end of day balance file)
Maximum number of corporate action transfers in the day
Maximum number corporate action positions (events file processing at the end of the day)
Number of risk consultations in the day (request and response)
Number of mocks held requiring risk assessment, per subaccount, in the day
Maximum number of different assets in collateral (to assess participants' inventory and processing)
Measurement of the maximum number of collateral transfer messages (deposit, withdrawal, distribution and transfer)
Measurement of the maximum number of simultaneous consultations (collateral deposited, margin call and collateral transfer)
Volume of accounts created per hour
Volume of links created per hour
Number of live accounts in the base of their systems (inventory)

Indicators – Results Statement

- The results must be communicated via the appropriate form (to be sent out at the start of 2023)
- The report must contain the following information:
  - Name of the application
  - Version
  - Supplier
  - Test Environment
  - Hosting of the Test Environment
  - Technical data of the Test and Production environment
  - Architecture of the environments
  - For each indicator
    - Peak **Data of information (Data and qty);**
    - % of Increment and Rational
    - Quantity executed
    - Conclusion of the Result
      - If unsatisfactory: Plan of Action, Deadline and Responsible Party

Indicator - Results

- **Example**

Broker's data	
Broker name:	
Broker code:	
Category:	

Environment's data	Production environment	Test environment
Application name:		
Version:		
Provider:		
Hosted in:		
Hostname:		
Solution version:		
Type of server:		
Operational System:		
CPU:		
RAM:		
Disk space in use:		
Disk space available:		

Evidence:	

IMPORTANT: Add evidence to the reply ema

Indicator 1 - Trades Captured on one day

Test's Date:	
Peak's Date:	
Peak of Trades Captured on one day	
Increment (%):	
Quantity processed:	
Rational for the definition of Increment:	
Evidence:	

Result:	
Conclusion description:	

Action Plan's name:	
Action Plan's description:	
Deadline for implemantation:	
Responsible:	

IMPORTANT: Add evidence to the reply email with this form

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Support, Guidance and Assessment
Next Steps

✓ **2022 / 2023**:   Support and Guidance for Participants in the Capacity Tests
                  (Guidance Webinar; and Publication of the Report Model to be used)

✓ **2023:** Performance of Post-Trade Capacity Tests by the Market (until Dec. 30, 2023)
          Planning indicators for 2024

✓ **1st quarter of 2024**:   BSM Assessment
                        (Audit of the Capacity Tests performed in 2023)

✓ **2024:** Assessment of the Market Result, for planning the next Capacity Tests

Any questions?

References

Messaging Catalog:
http://www.bvmfnet.com.br/pt-br/manuais/clearing-bmfbovespa/catalogo-de-mensagens-e-arquivos.aspx?idioma=pt-br#a

Technical queries:
liquidacao.certifica@b3.com.br

Auditing queries:
auditoria@bsmsupervisao.com.br