WEBSERVICE MANUAL
MARGIN SIMULATOR

15/05/2019

PUBLIC INFORMATION

SUMMARY

Historic Reviews

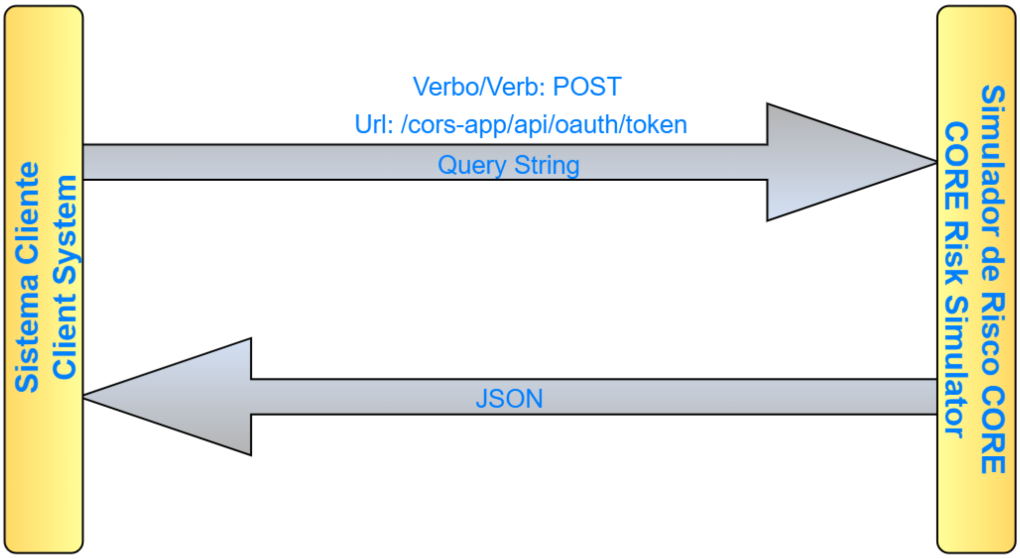
Date	Version	Description
May/2019	1.0	Initial version

1 INTRODUCTION

The Simulator API provides web endpoints, built in the REST standard (Representational State Transfer), that enable access to the CORE system (Close-out Risk Evaluation), enabling a margin call to be made from a hypothetical portfolio.

2 AUTENTICATION

2.1 Workflow



2.2 Message

Url: https://api.b3.com.br/cors-app/api/oauth/token

Verb: POST

2.3 Requisition

2.3.1 Header

key	value
Content-Type	application/x-www-form-urlencoded

2.3.2 Body (Query string)

parameter	observation.
grant_type	client_credentials
client_id	id provided by B3
client_secret	secret provided by B3

Example:

```
Url: https://api.b3.com.br/cors-
app/api/oauth/token?grant_type=client_credentials&client_id=abcdefghijklm
n&client_secret=opqrstuvwxyz

Verb: POST

Header:
Content-Type = application/x-www-form-urlencoded
```

2.4 Response

2.4.1 Body (JSON)

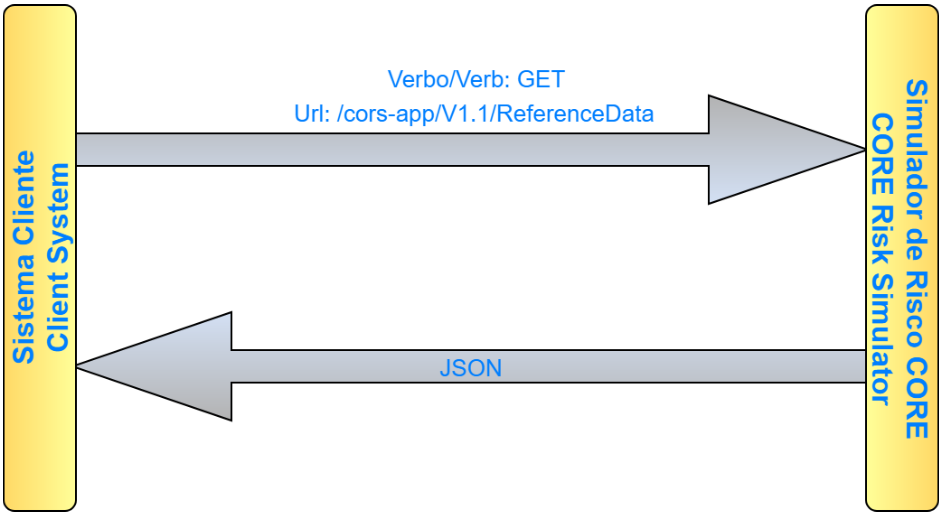
parameter	type	observation
access_token	string	token to be used in CORS calls
expires_in	integer	expiration time
scope	string	scope
token_type	string	token type

Example:

```
{
    "access_token": "h8cCzK5hRs0l6Iqbxp1Kya1NzX3YNlZK74ZOMb6T5H1L1IHDnlNw
kb",
    "token_type": "Bearer",
    "expires_in": 3600,
    "scope": "resource.WRITE resource.READ"
}
```

3 INSTRUMENT INFORMATION

3.1 Workflow



3.2 Message

Url: https://api.b3.com.br/cors-app/V1.1/ReferenceData

Verb: GET

3.3 Request

3.3.1 Header

key	value
Authorization	Bearer + " " + access_token

3.3.2 Example

```
Url: https://api.b3.com.br/cors-app/V1.1/ReferenceData

Verbo / Verb: GET

Cabeçalho / Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
```

3.4 Response

3.4.1 Body (JSON)

parameter	type	Observation
ReferenceData	ReferenceData	see ReferenceData

3.4.2 ReferenceData (JSON)

Parameter	type	Observation
referenceDataToken	string	token to be used in calculations calls
liquidityResourceLimit	double	liquidity resource limit
SecurityGroupList	SecurityGroupList	see SecurityGroupList

3.4.3 SecurityGroupList (JSON)

parameter	tipo / type	observation.
positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

securityTypeCode	integer	0 - Derivative 1 - Equity 2 - Equity Option 3 - Equity Forward 4 - Collateral 5 - BTB / Security Lending 6 - CBA 7 - Swap 8 - Flexible Option 9 - NDF 10 - Sec. Lending Corp. Event 11 - Gold Forward 12 - Equity Buy-in
symbolList	list<string>	symbols list
underlyingSymbolList	list<string>	underlying symbols list * used only for the following securityTypeCode: 5 (BTB / Security Lending)
OTCContractList	OTCContractList	see OTCContractList * used only for the following securityTypeCodes: 7 - Swap 8 - Flexible Option 9 - NDF

3.4.4 OTCContractList (JSON)

parameter	type	observation
contractCode	string	contract code
otcIndicatorContractCodeList	list<string>	indicators list

3.4.5 Example


```
{
    "ReferenceData":
    {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc",
        "liquidityResourceLimit": 3430000000,
        "SecurityGroupList": [
            {
                "positionTypeCode": 0,
                "securityTypeCode": 0,
                "symbolList": [
                    "BGIH19",
                    "BGIH19C010000",
                    "D13F20C000875",
                    "DDIF20",
                    "DDIF21",
                    "DOLF20",
                    "DOLF20C004000",
                    "DOLF21",
                    "DOLF21C003250"
                ],
                "underlyingSymbolList": null,
                "OTCContractList": null
            },
            {
                "positionTypeCode": 0,
                "securityTypeCode": 1,
                "symbolList": [
                    "AAPL34",
                    "BBAS3",
                    "CGAS-DEB31",
                    "PETR-DEB54",
                    "PETR3",
                    "PETR4"
                ],
                "underlyingSymbolList": null,
                "OTCContractList": null
```

```
},
{
    "positionTypeCode": 0,
    "securityTypeCode": 2,
    "symbolList": [
        "ABEVL01",
        "PETRD20",
        "VALEF50"
    ],
    "underlyingSymbolList": null,
    "OTCContractList": null
},
{
    "positionTypeCode": 0,
    "securityTypeCode": 3,
    "symbolList": [
        "BBDC3T",
        "PETR4T",
        "VVAR3T"
    ],
    "underlyingSymbolList": null,
    "OTCContractList": null
},
{
    "positionTypeCode": 1,
    "securityTypeCode": 4,
    "symbolList": [
        "ABEV3",
        "ABEV3 BZ",
        "B3SA3",
        "LFT/2022-09-01/210100",
        "LTN/2020-01-01/100000"
    ],
    "underlyingSymbolList": null,
    "OTCContractList": null
},
{
    "positionTypeCode": 0,
    "securityTypeCode": 5,
```

```
        "symbolList": [
            "OTCSECLEND"
        ],
        "underlyingSymbolList": [
            "B3SA3",
            "PETR3",
            "PETR4"
        ],
        "OTCContractList": null
    },
    {
        "positionTypeCode": 0,
        "securityTypeCode": 6,
        "symbolList": [
            "SCSH929"
        ],
        "underlyingSymbolList": null,
        "OTCContractList": null
    },
    {
        "positionTypeCode": 2,
        "securityTypeCode": 7,
        "symbolList": [
            "SWAP"
        ],
        "underlyingSymbolList": null,
        "OTCContractList": [
            {
                "contractCode": "SCP",
                "otcIndicatorContractCodeList": [
                    "DOL",
                    "PRE"
                ]
            },
            {
                "contractCode": "SDT",
                "otcIndicatorContractCodeList": [
                    "DI1",
                    "TR"
```

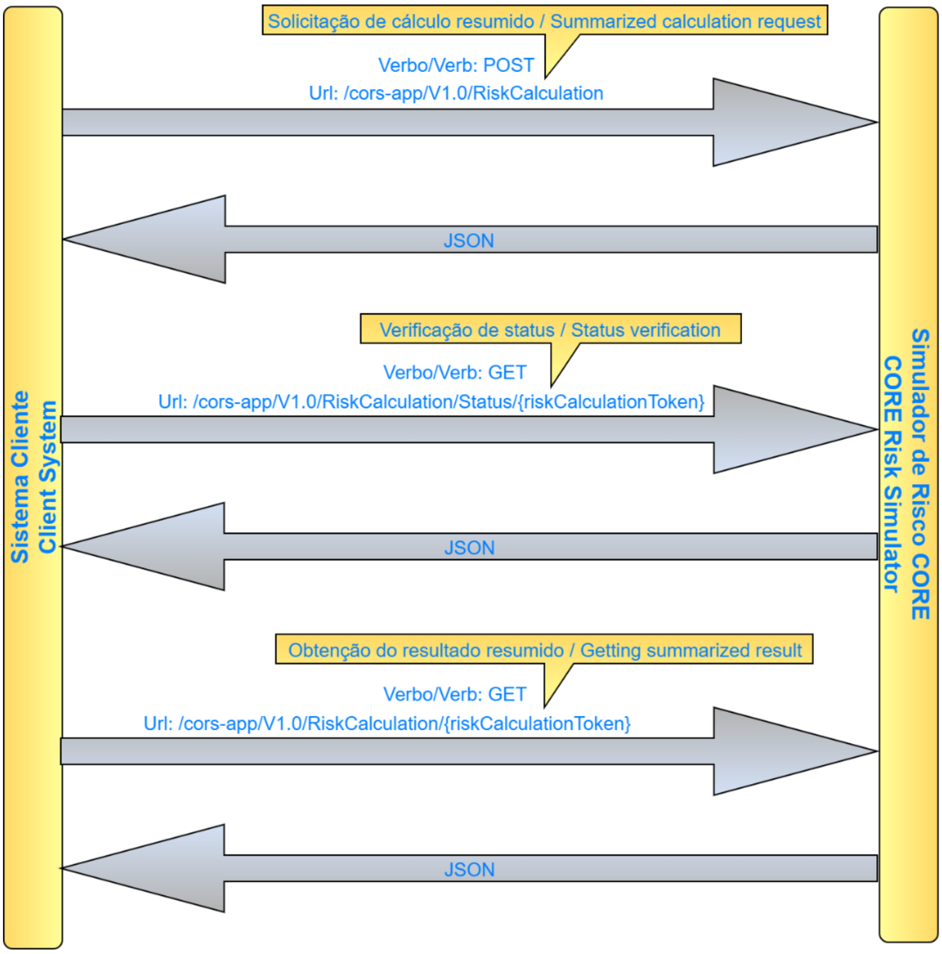
```
                ]
            }
        ]
    },
    {
        "positionTypeCode": 2,
        "securityTypeCode": 8,
        "symbolList": [
            "OPFLEXC",
            "OPFLEXP"
        ],
        "underlyingSymbolList": null,
        "OTCContractList": [
            {
                "contractCode": "FCA",
                "otcIndicatorContractCodeList": [
                    "B3SA3",
                    "PETR4"
                ]
            },
            {
                "contractCode": "OFC",
                "otcIndicatorContractCodeList": [
                    "DOL"
                ]
            },
            {
                "contractCode": "FPA",
                "otcIndicatorContractCodeList": [
                    "B3SA3",
                    "PETR4"
                ]
            },
            {
                "contractCode": "OFV",
                "otcIndicatorContractCodeList": [
                    "DOL"
                ]
            }
```

```
        ]
    },
    {
        "positionTypeCode": 2,
        "securityTypeCode": 9,
        "symbolList": [
            "NDF"
        ],
        "underlyingSymbolList": null,
        "OTCContractList": [
            {
                "contractCode": "TMC",
                "otcIndicatorContractCodeList": [
                    "DOL",
                    "EDO",
                    "JPY",
                    "REU",
                    "YDO"
                ]
            }
        ]
    },
    {
        "positionTypeCode": 0,
        "securityTypeCode": 10,
        "symbolList": [
            "OTCSECLEND_CORPEVT"
        ],
        "underlyingSymbolList": null,
        "OTCContractList": null
    },
    {
        "positionTypeCode": 0,
        "securityTypeCode": 11,
        "symbolList": [
            "OZ10005",
            "OZ10030",
            "OZ10180"
        ],
```

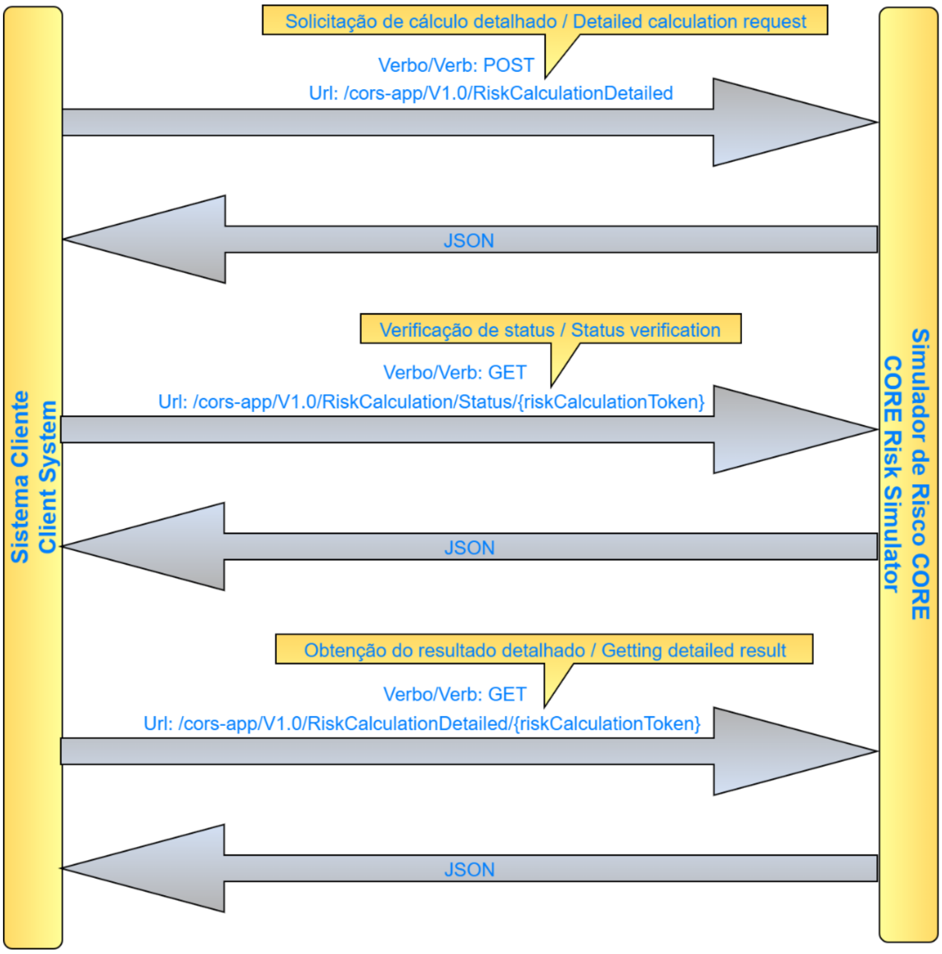
```
                    "underlyingSymbolList": null,
                    "OTCContractList": null
                },
                {
                    "positionTypeCode": 0,
                    "securityTypeCode": 12,
                    "symbolList": [
                        "B3SA3_BUYIN",
                        "PETR3_BUYIN",
                        "PETR4_BUYIN"
                    ],
                    "underlyingSymbolList": null,
                    "OTCContractList": null
                }
            ]
        }
    }
```

4 RISK SIMULATION

4.1 Workflow - Summarized simulation



4.2 Workflow - Detailed simulation



4.3 Messages

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

4.4 Request

4.4.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

4.4.2 Body (JSON)

parameter	type	observation
ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
RiskPositionList	list<RiskPosition>	see RiskPosition

4.4.3 ReferenceData (JSON)

parâmetro / parameter	tipo / type	observation.
referenceDataToken	string	token to be used in calculations calls

4.4.4 RiskPosition (JSON)

parameter	type	observation
Collateral	Collateral	see Collateral
OtcContract	OtcContract	see OtcContract
Position	Position	see Position
Security	Security	see Security

SecurityGroup	SecurityGroup	see SecurityGroup
SecurityLending	SecurityLending	see SecurityLending

4.4.5 Security (JSON)

parameter	type	observation
symbol	string	security symbol

4.4.6 SecurityGroup (JSON)

parameter	type	observation
positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

4.4.7 Collateral (JSON)

parameter	type	observation
quantity	double	collateral quantity

4.4.8 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity
coveredQuantity	double	covered quantity
longPrice	double	long price
shortPrice	double	short price

sideIndicator	integer	0 - Buy 1 - Sell
tradeDate	string	trade date * if blank, will be used the reference date * format: YYYY-MM-DD
maturityDate	string	maturity date * format: YYYY-MM-DD
finalityCode	integer	finality code
startDate	string	start date * format: YYYY-MM-DD
collateralEligibleIndicator	boolean	collateral eligible indicator

4.4.9 SecurityLending (JSON)

parameter	type	observation
callableIndicator	boolean	anticipatory indicator
underlyingSymbol	string	underlying symbol
unlockDate	string	unlock date * format: YYYY-MM-DD

4.4.10 OTCContract (JSON)

parameter	type	observation
contractCode	string	contract code
underlyingSymbol	string	underlying symbol
notionalValue	double	notional value
startPrice	double	start price
SwapLegList	list<SwapLeg>	see SwapLegList * 2 legs are required
Option	Option	see Option

OptionBarrierList	list<OptionBarrier>	see OptionBarrier

4.4.11 SwapLeg (JSON)

parameter	type	observation
*swapLegType	integer	1 - active leg 2 - passive leg
*otcIndicatorCode	string	indicator code
legPercentage	double	indicator percentage
startPrice	double	start price
*currentValue	double	current value

4.4.12 Option (JSON)

parameter	type	observation
strikePrice	double	strike price
rebatePrice	double	rebate value

4.4.13 OptionBarrier (JSON)

parameter	type	observation
barrierType	integer	tipo da barreira / barrier type 0 - KNOCK_OUT_UP 1 - KNOCK_OUT_DOWN 2 - KNOCK_IN_UP 3 - KNOCK_IN_DOWN 4 - LIMIT
barrierValue	double	barrier value

4.4.14 Example

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Body (JSON):


```
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "DOLF20"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "longQuantity": 1
            }
        },
        {
            "Security": {
                "symbol": "B3SA3"
            },
```

```
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "shortQuantity": 20,
                "coveredQuantity": 15,
                "shortPrice": 25.5,
                "tradeDate": "2019-04-01"
            }
        },
        {
            "Security": {
                "symbol": "PETRD77"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "shortQuantity": 25,
                "coveredQuantity": 10
            }
        },
        {
            "Security": {
                "symbol": "B3SA3T"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "shortQuantity": 25,
                "coveredQuantity": 5,
                "shortPrice": 29.9,
                "maturityDate": "2019-10-10"
            }
        },
        {
            "Security": {
                "symbol": "LTN/2019-10-01/100000"
```

```
        },
        "SecurityGroup": {
            "positionTypeCode": "1"
        },
        "Collateral": {
            "quantity": 15
        }
    },
    {
        "Security": {
            "symbol": "OTCSECLEND"
        },
        "SecurityGroup": {
            "positionTypeCode": "0"
        },
        "Position": {
            "shortQuantity": 25,
            "coveredQuantity": 5,
            "maturityDate": "2020-10-10",
            "finalityCode": 1039,
            "collateralEligibleIndicator": true
        },
        "SecurityLending": {
            "callableIndicator": true,
            "underlyingSymbol": "B3SA3",
            "unlockDate": "2019-01-01"
        }
    },
    {
        "Security": {
            "symbol": "SCSH929"
        },
        "SecurityGroup": {
            "positionTypeCode": "0"
        },
        "Position": {
            "longQuantity": 25,
            "longPrice": 150,
            "startDate": "2019-01-01"
```

```
        }
    },
    {
        "SecurityGroup": {
            "positionTypeCode": "2"
        },
        "Position": {
            "maturityDate": "2020-10-10",
            "startDate": "2019-01-01"
        },
        "OtcContract": {
            "contractCode": "SCP",
            "SwapLegList": [
                {
                    "swapLegType": 1,
                    "otcIndicatorCode": "DOL",
                    "legPercentage": 100,
                    "startPrice": 3.55,
                    "currentValue": 100000
                },
                {
                    "swapLegType": 2,
                    "otcIndicatorCode": "PRE",
                    "legAdditiveSpread": 8.99,
                    "legPercentage": 100,
                    "currentValue": 100000
                }
            ]
        }
    },
    {
        "SecurityGroup": {
            "positionTypeCode": "2"
        },
        "Position": {
            "sideIndicator": 1,
            "maturityDate": "2020-10-10"
        },
        "OtcContract": {
```

```
                "contractCode": "OFC",
                "underlyingSymbol": "DOL",
                "notionalValue": 50000,
                "Option": {
                    "strikePrice": 3.95,
                    "rebatePrice": 0.55
                },
                "OptionBarrierList": [
                    {
                        "barrierType": 2,
                        "barrierValue": 3.85
                    },
                    {
                        "barrierType": 0,
                        "barrierValue": 4.1
                    },
                    {
                        "barrierType": 4,
                        "barrierValue": 4.01
                    }
                ]
            }
        },
        {
            "SecurityGroup": {
                "positionTypeCode": "2"
            },
            "Position": {
                "sideIndicator": 0,
                "maturityDate": "2020-10-10"
            },
            "OtcContract": {
                "contractCode": "TMC",
                "underlyingSymbol": "DOL",
                "notionalValue": 75000,
                "startPrice": 3.86
            }
        },
        {
```

```
            "Security": {
                "symbol": "OTCSECLEND_CORPEVT"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "shortQuantity": 1500000,
                "maturityDate": "2021-10-10"
            }
        },
        {
            "Security": {
                "symbol": "OZ10180"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "longQuantity": 150,
                "longPrice": 75.5,
                "tradeDate": "2019-01-01"
            }
        },
        {
            "Security": {
                "symbol": "PETR3_BUYIN"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "longQuantity": 15,
                "longPrice": 25.25,
                "shortPrice": 27.58,
                "tradeDate": "2019-04-01"
            }
        }
    ]
```

```
}
```

4.5 Response

4.5.1 Body (JSON)

parameter	type	observation
Risk	Risk	see Risk

4.5.2 Risk (JSON)

parameter	type	observation
riskCalculationToken	string	token for status and risk calculation result

4.5.3 Example

```
{
    "Risk": {
        "riskCalculationToken": "39e01f01-cbe9-45e8-a85d-631d7a93a00e"
    }

}
```

4.6 Status Verification

Url: https://api.b3.com.br/cors-app/V1.0/RiskCalculation/Status/{riskCalculationToken}

Verb: GET

4.6.1 Request

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

4.6.1.1 Example

```
Url: https://api.b3.com.br/cors-app/V1.0/RiskCalculation/Status/39e01f01-cbe9-45e8-a85d-631d7a93a00e

Verb: GET

Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
```

4.6.2 Response

4.6.2.1 Body (JSON)

parameter	type	observation
Risk	Risk	see Risk

4.6.2.2 Risk (JSON)

Parameter	type	observation
riskSimulationStatus	integer	risk calculation status 0 - In progress

		1 - Calculation done 2 - Calculation not found

4.6.2.3 Example

```
{
    "Risk": {
        "riskSimulationStatus": 1
    }

}
```

4.7 Getting summarized result

Url: https://api.b3.com.br/cors-app/V1.0/RiskCalculation/{riskCalculationToken}

Verb: GET

4.7.1 Request

4.7.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

4.7.1.2 Example

```
Url: https://api.b3.com.br/cors-app/V1.0/RiskCalculation/39e01f01-cbe9-
45e8-a85d-631d7a93a00e

Verb: GET
```

```
Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
```

4.7.2 Response

4.7.2.1 Body (JSON)

parameter	type	observation
BusinessStatusList	list<string>	errors list
Risk	Risk	see Risk

4.7.2.2 Risk (JSON)

parameter	type	observation
worstCaseSubPortfolio	integer	indicates which field was chosen 0 - totalDeficitSurplus 1 - totalDeficitSurplusSubPortfolio_1 2 - totalDeficitSurplusSubPortfolio_2 3 - totalDeficitSurplusSubPortfolio_1_2
totalDeficitSurplusSubPortfolio_2	double	exclusion of derivative positions close to maturity
totalDeficitSurplusSubPortfolio_1_2	double	exclusion of both types of positions
totalDeficitSurplusSubPortfolio_1	double	exclusion of asset delivery positions in the day
totalDeficitSurplus	double	Collateral balance
totalCollateralValue	double	collateral deposited value
riskWithoutCollateral	double	risk of positions
potentialLiquidityResource	double	potencial liquidity resource
liquidityResource	double	liquidity resource usage
calculationStatus	integer	calculation status

		0 - OK

4.7.2.3 Example


```
{
    "Risk": {
        "totalDeficitSurplus": -59940.873798174056,
        "totalDeficitSurplusSubPortfolio_1": 0,
        "totalDeficitSurplusSubPortfolio_2": 0,
        "totalDeficitSurplusSubPortfolio_1_2": 0,
        "worstCaseSubPortfolio": 0,
        "potentialLiquidityResource": 0,
        "totalCollateralValue": 0,
        "riskWithoutCollateral": 59940.873798174056,
        "liquidityResource": 0,
        "calculationStatus": 0
    },
    "BusinessStatusList": null
}
```


4.8 Getting detailed result

Url: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed/{riskCalculationToken}

Verb: GET

4.8.1 Request

4.8.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

4.8.1.2 Example

```
Url: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed/39e01f01-cbe9-45e8-a85d-631d7a93a00e

Verb: GET

Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
```

4.8.2 Response

4.8.2.1 Body (JSON)

parameter	type	observation
Risk	Risk	see Risk
BusinessStatusList	list<string>	errors list
collateralMarginList	list<collateralMargin>	list with collateral margin amount per holding period
positionGainOrLossList	list<positionGainOrLoss>	list with gain or loss amount per holding period
accumulatedBalanceList	list<accumulatedBalance>	list with accumulated balance per holding period
detailCollateralMarginList	list<detailCollateralMargin>	list with collateral margin amount per holding period and collateral type
detailPositionGainOrLossList	list<detailPositionGainOrLoss>	list with position gain or loss amount per holding period and position type

4.8.2.2 Risk (JSON)

parameter	type	observation
worstCaseSubPortfolio	integer	indicates which field was chosen 0 - totalDeficitSurplus 1 - totalDeficitSurplusSubPortfolio_1 2 - totalDeficitSurplusSubPortfolio_2 3 - totalDeficitSurplusSubPortfolio_1_2
totalDeficitSurplusSubPortfolio_2	double	exclusion of derivative positions close to maturity
totalDeficitSurplusSubPortfolio_1_2	double	exclusion of both types of positions
totalDeficitSurplusSubPortfolio_1	double	exclusion of asset delivery positions in the day
totalDeficitSurplus	double	Collateral balance
totalCollateralValue	double	collateral deposited value
riskWithoutCollateral	double	risk of positions
potentialLiquidityResource	double	potencial liquidity resource
liquidityResource	double	liquidity resource usage
calculationStatus	integer	calculation status 0 - OK

4.8.2.3 detailCollateralMarginList (JSON)

parameter	type	observation
collateralTypeCode	integer	collateral type code: 1 - Government Bond 2 - International Bond 3 - Equity 4 - Bank CD 5 - Cash (BRL) 6 - Cash (USD) 7 - Letter of Credit

		8 - FIC 9 - Pure Gold 10 - ADR 999 - Others
marginList	list<margin>	Collateral margin amount per closing day and collateral type

4.8.2.4 detailPositionGainOrLossList (JSON)

parameter	type	observation
positionTypeCode	integer	position type code: 1 - Equity 2 - Equity Net 3 - Option on Equity (Call) 4 - Option on Equity (Put) 5 - Equity Forward 6 - Corporate Bond 7 - Agribusiness Future 8 - Financial Future 9 - Equity Future 10 - Gold Future 11 - Energy Future 12 - Option on Agribusiness Future 13 - Option on Financial Spot 14 - Option on Financial Future 15 - Option on Metal 16 - Central Bank Auction 17 - Sec. Lending Lender 18 - Sec. Lending Borrower 19 - Sec. Lending Failure 20 - Sec. Lending Corporate Event 21 - Gold Forward

		22 - OTC Swap 23 - OTC Flexible Option (Put) 24 - OTC Flexible Option (Call) 25 - OTC NDF 999 - Others
gainOrLossList	list<gainOrLoss>	Position gain or loss amount per holding period and position type

4.8.2.5 collateralMargin (JSON) / positionGainOrLoss (JSON) / accumulatedBalance (JSON) / margin (JSON) / gainOrLoss (JSON)

parameter	type	observation
holdingPeriod	integer	holding period
amount	double	amount per holding period

4.8.2.6 Example


```
{
    "Risk": {
        "totalDeficitSurplus": -108031.7132859548,
        "totalDeficitSurplusSubPortfolio_1": 0,
        "totalDeficitSurplusSubPortfolio_2": 0,
        "totalDeficitSurplusSubPortfolio_1_2": 0,
        "worstCaseSubPortfolio": 0,
        "potentialLiquidityResource": 0,
        "totalCollateralValue": 1252.35,
        "riskWithoutCollateral": 109284.0632859548,
        "liquidityResource": 0,
        "calculationStatus": 0
    },
    "BusinessStatusList": null,
    "collateralMarginList": [
```

```
    {
        "holdingPeriod": 1,
        "amount": 1252.35
    }
],
"positionGainOrLossList": [
    {
        "holdingPeriod": 2,
        "amount": -78316.03771428748
    },
    {
        "holdingPeriod": 3,
        "amount": -30357.022321667326
    },
    {
        "holdingPeriod": 4,
        "amount": -611.00325
    }
],
"accumulatedBalanceList": [
    {
        "holdingPeriod": 1,
        "amount": 1252.35
    },
    {
        "holdingPeriod": 2,
        "amount": -77063.68771428747
    },
    {
        "holdingPeriod": 3,
        "amount": -107420.7100359548
    },
    {
        "holdingPeriod": 4,
        "amount": -108031.7132859548
    },
    {
        "holdingPeriod": 5,
        "amount": -108031.7132859548
```

```
        },
        {
            "holdingPeriod": 6,
            "amount": -108031.7132859548
        },
        {
            "holdingPeriod": 7,
            "amount": -108031.7132859548
        },
        {
            "holdingPeriod": 8,
            "amount": -108031.7132859548
        },
        {
            "holdingPeriod": 9,
            "amount": -108031.7132859548
        },
        {
            "holdingPeriod": 10,
            "amount": -108031.7132859548
        }
    ],
    "detailCollateralMarginList": [
        {
            "collateralTypeCode": 3,
            "marginList": [
                {
                    "holdingPeriod": 1,
                    "amount": 1252.35
                }
            ]
        }
    ],
    "detailPositionGainOrLossList": [
        {
            "positionTypeCode": 1,
            "gainOrLossList": [
                {
                    "holdingPeriod": 4,
```

```
                    "amount": 1136.8500000000001
                }
            ]
        },
        {
            "positionTypeCode": 2,
            "gainOrLossList": [
                {
                    "holdingPeriod": 4,
                    "amount": -1747.8532500000001
                }
            ]
        },
        {
            "positionTypeCode": 8,
            "gainOrLossList": [
                {
                    "holdingPeriod": 2,
                    "amount": -78316.03771428748
                },
                {
                    "holdingPeriod": 3,
                    "amount": -30357.022321667326
                }
            ]
        }
    ]
}
```

5 REQUEST DETAILS BY POSITION TYPE

5.1 DERIVATIVE

5.1.1 Request Message

5.1.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.1.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.1.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.1.1.4 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security
*SecurityGroup	SecurityGroup	see SecurityGroup

*Position	Position	see Position

5.1.1.5 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.1.1.6 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.1.1.7 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity

* Required field

5.1.2 Example

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

```
Verb: POST

Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Body (JSON):
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "DOLF20"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "longQuantity": 1
            }
        }
    ]
}
```

5.2 EQUITY

5.2.1 Request Message

5.2.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.2.1.2 Corpo/Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.2.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.2.1.4 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security
*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position

5.2.1.5 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.2.1.6 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.2.1.7 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity
coveredQuantity	double	covered quantity
longPrice	double	long price
shortPrice	double	short price
tradeDate	string	trade date * if blank, will be used the reference date * format: YYYY-MM-DD

* Required field

5.2.2 Example

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Body (JSON):


```
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "B3SA3"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "shortQuantity": 20,
                "coveredQuantity": 15,
                "shortPrice": 25.5,
                "tradeDate": "2019-04-01"
            }
        }
    ]
```

}

5.3 STOCK OPTION

5.3.1 Request Message

5.3.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.3.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.3.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.3.1.4 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security
*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position

5.3.1.5 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.3.1.6 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.3.1.7 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity
coveredQuantity	double	covered quantity

* Required field

5.3.2 Example

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Cabeçalho / Header:
Authorization = Bearer h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Body (JSON):


```json
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "PETRD77"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "shortQuantity": 25,
                "coveredQuantity": 10
            }
        }
    ]
}
```

5.4 EQUITY FORWARD

5.4.1 Request Message

5.4.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.4.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.4.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.4.1.4 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security
*SecurityGroup	SecurityGroup	see SecurityGroup

*Position	Position	see Position

5.4.1.5 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.4.1.6 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.4.1.7 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity
coveredQuantity	double	covered quantity
longPrice	double	long price
shortPrice	double	short price
*maturityDate	string	maturity date * format: YYYY-MM-DD

5.4.2 Example

`Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation`

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Body (JSON):


```json
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "B3SA3T"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "shortQuantity": 25,
                "coveredQuantity": 5,
                "shortPrice": 29.9,
                "maturityDate": "2019-10-10"
            }
        }
    ]
}
```

5.5 COLLATERAL

5.5.1 Resquest message

5.5.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.5.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.5.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.5.1.4 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security
*SecurityGroup	SecurityGroup	see SecurityGroup
*Collateral	Collateral	see Collateral

5.5.1.5 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.5.1.6 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.5.1.7 Collateral (JSON)

parameter	type	observation
*quantity	double	collateral quantity

* Required field

5.5.2 Example

```
Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
```

```
Content-Type = application/json

Body (JSON):
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "LTN/2019-10-01/100000"
            },
            "SecurityGroup": {
                "positionTypeCode": "1"
            },
            "Collateral": {
                "quantity": 15
            }
        }
    ]
}
```

5.6 SECURITY LENDING (BTB)

5.6.1 Request Message

5.6.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.6.1.2 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.6.1.3 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security
*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position

5.6.1.4 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.6.1.5 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.6.1.6 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity
coveredQuantity	double	covered quantity

*maturityDate	string	maturity date *formato / format: YYYY-MM-DD
finalityCode	integer	finality code
collateralEligibleIndicator	boolean	collateral eligible indicator

5.6.1.7 SecurityLending (JSON)

parameter	type	observation
callableIndicator	boolean	anticipatory indicator
*underlyingSymbol	string	underlying symbol
unlockDate	string	unlock date * format: YYYY-MM-DD

* Required field

5.6.2 Example

```
Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Corpo / Body (JSON):
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
```

```
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "OTCSECLEND"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "shortQuantity": 25,
                "coveredQuantity": 5,
                "maturityDate": "2020-10-10",
                "finalityCode": 1039,
                "collateralEligibleIndicator": true
            },
            "SecurityLending": {
                "callableIndicator": true,
                "underlyingSymbol": "B3SA3",
                "unlockDate": "2019-01-01"
            }
        }
    ]

}
```


5.7 CURRENCY SWAP

5.7.1 Request Message

5.7.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.7.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.7.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.7.1.4 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security
*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position

5.7.1.5 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.7.1.6 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.7.1.7 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity
longPrice	double	long price
shortPrice	double	short price
*startDate	string	start date * if blank, will be used the reference date * format: YYYY-MM-DD

5.7.2 Example

```
Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Corpo / Body (JSON):
```

```
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "SCSH929"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "longQuantity": 25,
                "longPrice": 150,
                "startDate": "2019-01-01"
            }
        }
    ]
}
```


5.8 SWAP

5.8.1 Request Message

5.8.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.8.1.2 Body

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.8.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.8.1.4 RiskPosition (JSON)

parameter	type	observation
*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position
*OtcContract	OtcContract	see OtcContract

5.8.1.5 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.8.1.6 Position (JSON)

parameter	type	observation

*maturityDate	string	maturity date * format: YYYY-MM-DD
startDate	string	start date * format: YYYY-MM-DD

5.8.1.7 OTC Contract (JSON)

parameter	type	observation
*contractCode	string	contract code
*SwapLegList	list<SwapLeg>	see SwapLegList * 2 legs are required

5.8.1.8 SwapLeg (JSON)

parameter	type	observation
*swapLegType	integer	1 - active leg 2 - passive leg
*otcIndicatorCode	string	indicator code
legPercentage	double	indicator percentage
startPrice	double	start price
*currentValue	double	current value

5.8.2 Example

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

```
Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Corpo / Body (JSON):
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "SecurityGroup": {
                "positionTypeCode": "2"
            },
            "Position": {
                "maturityDate": "2020-10-10",
                "startDate": "2019-01-01"
            },
            "OtcContract": {
                "contractCode": "SCP",
                "SwapLegList": [
                    {
                        "swapLegType": 1,
                        "otcIndicatorCode": "DOL",
                        "legPercentage": 100,
                        "startPrice": 3.55,
                        "currentValue": 100000
                    },
                    {
                        "swapLegType": 2,
                        "otcIndicatorCode": "PRE",
                        "legAdditiveSpread": 8.99,
                        "legPercentage": 100,
                        "currentValue": 100000
                    }
```

```
                    ]
                }
            }
        ]
    }
```

5.9 FLEXIBLE OPTION

5.9.1 Request Message

5.9.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.9.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.9.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.9.1.4 RiskPosition (JSON)

parameter	type	observation
*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position
*OtcContract	OtcContract	see OtcContract

5.9.1.5 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.9.1.6 Position (JSON)

parameter	type	observation
*sidIndicator	integer	0 - Buy 1 - Sell
*maturityDate	string	maturity date * format: YYYY-MM-DD

5.9.1.7 OTCContract (JSON)

parameter	type	observation
*contractCode	string	contract code
*underlyingSymbol	string	underlying symbol
*notionalValue	double	notional value
*Option	Option	see Option
OptionBarrierList	list<OptionBarrier>	see OptionBarrier

5.9.1.8 Option (JSON)

parameter	type	observation
*strikePrice	double	strike price
rebatePrice	double	rebate value

5.9.1.9 OptionBarrier (JSON)

parameter	type	observation
barrierType	integer	barrier type 0 - KNOCK_OUT_UP 1 - KNOCK_OUT_DOWN 2 - KNOCK_IN_UP 3 - KNOCK_IN_DOWN 4 - LIMIT
barrierValue	double	barrier value

5.9.2 Example

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Corpo / Body (JSON):


```
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "SecurityGroup": {
                "positionTypeCode": "2"
            },
            "Position": {
                "sideIndicator": 1,
                "maturityDate": "2020-10-10"
            },
            "OtcContract": {
                "contractCode": "OFC",
                "underlyingSymbol": "DOL",
                "notionalValue": 50000,
                "Option": {
                    "strikePrice": 3.95,
                    "rebatePrice": 0.55
                },
                "OptionBarrierList": [
                    {
                        "barrierType": 2,
                        "barrierValue": 3.85
                    },
                    {
                        "barrierType": 0,
                        "barrierValue": 4.1
                    },
                    {
                        "barrierType": 4,
                        "barrierValue": 4.01
                    }
```

```
                    ]
                }
            }
        ]
}
```


5.10 FORWARD

5.10.1 Request Message

5.10.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.10.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.10.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.10.1.4 RiskPosition (JSON)

parameter	type	observation

*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position
*OtcContract	OtcContract	see OtcContract

5.10.1.5 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.10.1.6 Position (JSON)

parameter	type	observation
*sideIndicator	integer	0 - Buy 1 - Sell
*maturityDate	string	maturity date * format: YYYY-MM-DD

5.10.1.7 OTCContract (JSON)

parameter	type	observation
*contractCode	string	contract code
*underlyingSymbol	string	underlying symbol
*notionalValue	double	notional value
*startPrice	double	start price

* Required field

5.10.2 Example

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Corpo / Body (JSON):


```
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "SecurityGroup": {
                "positionTypeCode": "2"
            },
            "Position": {
                "sideIndicator": 0,
                "maturityDate": "2020-10-10"
            },
            "OtcContract": {
                "contractCode": "TMC",
                "underlyingSymbol": "DOL",
                "notionalValue": 75000,
                "startPrice": 3.86
            }
        }
```

```
    ]
}
```

5.11 CORPORATE ACTION – SECURITY LENDING

5.11.1 Request Message

5.11.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.11.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.11.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.11.1.4 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security

*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position

5.11.1.5 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.11.1.6 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.11.1.7 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity
*maturityDate	string	maturity date * format: YYYY-MM-DD

* Required field

5.11.2 Example

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Corpo / Body (JSON):


```
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "OTCSECLEND_CORPEVT"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "shortQuantity": 1500000,
                "maturityDate": "2021-10-10"
            }
        }
    ]
}
```

5.12 GOLD FORWARD

5.12.1 Request Message

5.12.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.12.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.12.1.3 ReferenceData (JSON)

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.12.1.4 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security
*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position

5.12.1.5 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.12.1.6 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.12.1.7 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity
longPrice	double	long price
shortPrice	double	short price
*tradeDate	string	trade date * format: YYYY-MM-DD

*Required field

5.12.2 Example

Url of summarized request: https://api.b3.com.br/cors-app/V1.0/RiskCalculation

Url of detailed request: https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

Verb: POST

Header:
Authorization = Bearer h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Cabeçalho / Body (JSON):


```
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "OZ10180"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "longQuantity": 150,
                "longPrice": 75.5,
                "tradeDate": "2019-01-01"
            }
        }
    ]
}
```

5.13 EQUITY BUY-IN

5.13.1 Request Message

5.13.1.1 Header

key	value
Authorization	Bearer + " " + access_token
Content-Type	application/json

5.13.1.2 Body (JSON)

parameter	type	observation
*ReferenceData	ReferenceData	see ReferenceData
LiquidityResource	double	liquidity resource
*RiskPositionList	list<RiskPosition>	see RiskPosition

5.13.1.3 ReferenceData

parameter	type	observation
*referenceDataToken	string	token to be used in calculations calls

5.13.1.4 RiskPosition (JSON)

parameter	type	observation
*Security	Security	see Security
*SecurityGroup	SecurityGroup	see SecurityGroup
*Position	Position	see Position

5.13.1.5 Security (JSON)

parameter	type	observation
*symbol	string	security symbol

5.13.1.6 SecurityGroup (JSON)

parameter	type	observation
*positionTypeCode	integer	0 - Standard Position 1 - Collateral 2 - OTC

5.13.1.7 Position (JSON)

parameter	type	observation
longQuantity	double	long quantity
shortQuantity	double	short quantity
*longPrice	double	long price
*shortPrice	double	short price
tradeDate	string	trade date * if blank, will be used the reference date * format: YYYY-MM-DD

* Required field

5.13.2 Example

`Url of summarized request:` https://api.b3.com.br/cors-app/V1.0/RiskCalculation

`Url of detailed request:` https://api.b3.com.br/cors-app/V1.0/RiskCalculationDetailed

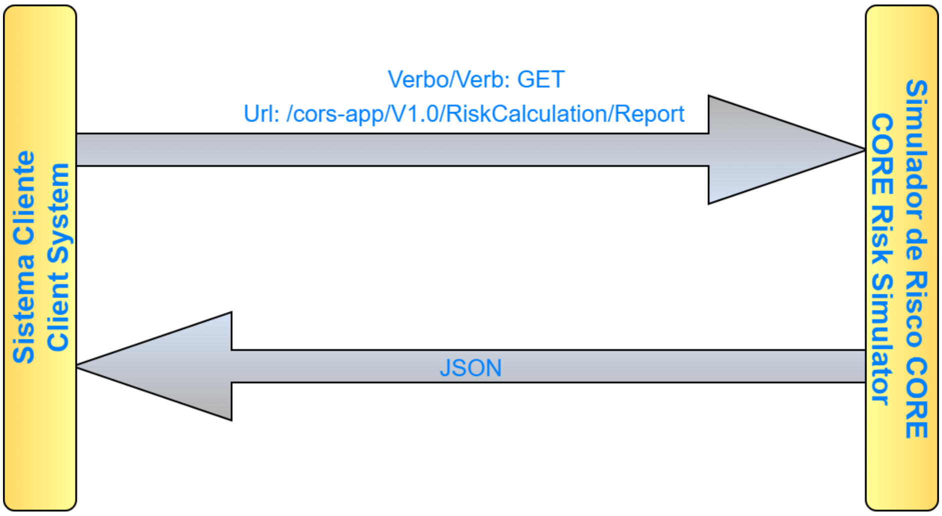
```
Verb: POST

Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
Content-Type = application/json

Corpo / Body (JSON):
{
    "ReferenceData": {
        "referenceDataToken": "3b0e9abcadb02dd13444ae06a8ce92bc"
    },
    "LiquidityResource": {
        "value": 3430000000
    },
    "RiskPositionList": [
        {
            "Security": {
                "symbol": "PETR3_BUYIN"
            },
            "SecurityGroup": {
                "positionTypeCode": "0"
            },
            "Position": {
                "longQuantity": 15,
                "longPrice": 25.25,
                "shortPrice": 27.58,
                "tradeDate": "2019-04-01"
            }
        }
    ]
}
```

6 SIMULATION REPORT

6.1 Workflow



6.2 Message

Url: https://api.b3.com.br/cors-app/V1.0/RiskCalculation/Report

Verb: GET

6.3 Request

6.3.1 Header

key	value
Authorization	Bearer + " " + access_token

6.3.2 Body (Query string)

parameter	observation
year	year
month	month

6.3.3 Example

```
Url: https://api.b3.com.br/cors-
app/V1.0/RiskCalculation/Report?year=2019&month=10

Verb: GET

Header:
Authorization = Bearer
h8cBzK5hRs0l6Iqbxp1Kya0NzX3YNpZF74ZOMb6T4S1L1IHDngWgkb
```

6.4 Response

6.4.1 Body (JSON)

parameter	type	observation
CalculationSummary	CalculationSummary	see CalculationSummary
riskCalculationList	list<riskCalculation>	list of calculations performed

6.4.2 CalculationSummary (JSON)

parameter	type	observation
withOTCList	list<withOTC>	lista de simulações com OTC
withoutOTCList	list<withoutOTC>	lista de simulações sem OTC
forNonProfessionalsList	list<forNonProfessionals>	lista de simulações de não profissionais

6.4.3 withOTC (JSON) / withoutOTCList (JSON)

parameter	type	observation
simulationQty	integer	simulations quantity
simulationTp	integer	simulation type: Up to 20 positions From 21 to 200 positions From 201 to 1,000 positions More than 1,000 positions

6.4.4 forNonProfessionals (JSON)

parameter	type	observation
simulationQty	integer	simulations quantity
simulationTp	integer	simulation type: Up to 50 positions More than 50 positions

6.4.5 riskCalculation (JSON)

parameter	type	observation
calcDate	string	calculation date *format: YYYY-MM-DD
calculationDetailsList	list<calculationDetails>	list of calculations performed on the day

6.4.6 calculationDetails (JSON)

parameter	type	observation
calcTime	string	calculation time *format: hh:mm:ss.mmm
positionsQty	int	positions quantity
existsOTC	boolean	indicates if the calculation was performed with OTCs

6.4.7 Example


```
{
    "riskCalculationList": [
        {
            "calcDate": "2019-11-01",
            "calculationDetailsList": [
                {
                    "calcTime": "15:38:03.617",
                    "positionsQty": 1,
                    "existsOTC": false
                },
                {
                    "calcTime": "18:33:39.963",
                    "positionsQty": 1,
                    "existsOTC": false
                }
            ]
        },
        {
            "calcDate": "2019-11-04",
            "calculationDetailsList": [
                {
                    "calcTime": "10:45:11.094",
                    "positionsQty": 1,
                    "existsOTC": false
                },
                {
```

```
                    "calcTime": "10:45:22.123",
                    "positionsQty": 1,
                    "existsOTC": false
                },
                {
                    "calcTime": "22:15:33.431",
                    "positionsQty": 2,
                    "existsOTC": true
                }
            ]
        }
    ],
    "CalculationSummary": {
        "withOTCList": [
            {
                "simulationQty": 1,
                "simulationTp": 1
            }
        ],
        "withoutOTCList": [
            {
                "simulationQty": 4,
                "simulationTp": 1
            }
        ],
        "forNonProfessionalsList": null
    }
}
```