



# Moody's Analytics Regulatory Reporting solution - XBRL assertions

BRT - Regulatory Reporting - Product Management

moodysanalytics.com

December, 2019

# Agenda

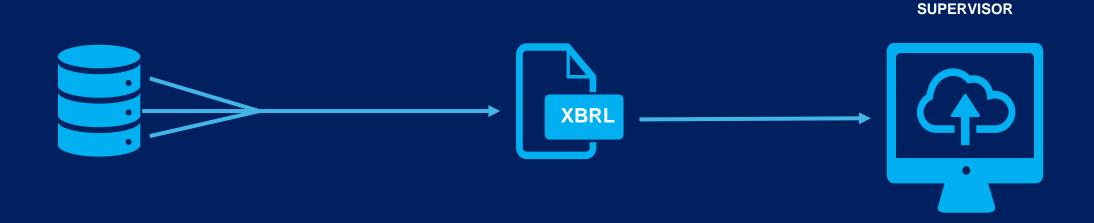
- What is an XBRL assertion?
- XBRL assertion demo
- Covered regulation
- Software version



What is an XBRL assertion? 

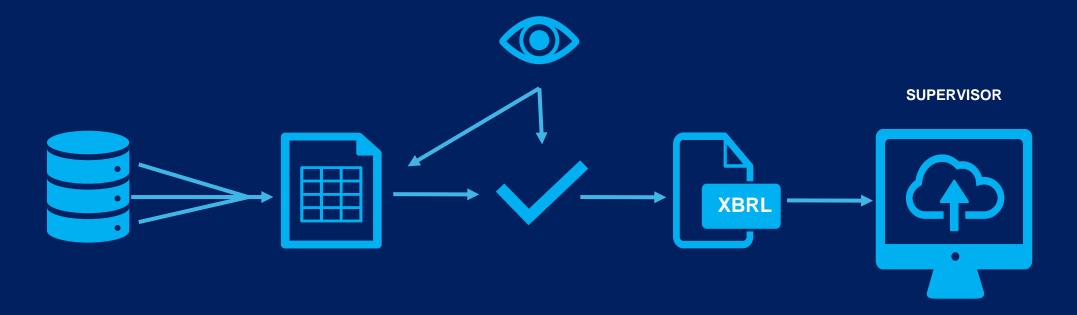
## Reporting Data Flow - high level

XBRL instance is submitted on supervisor website



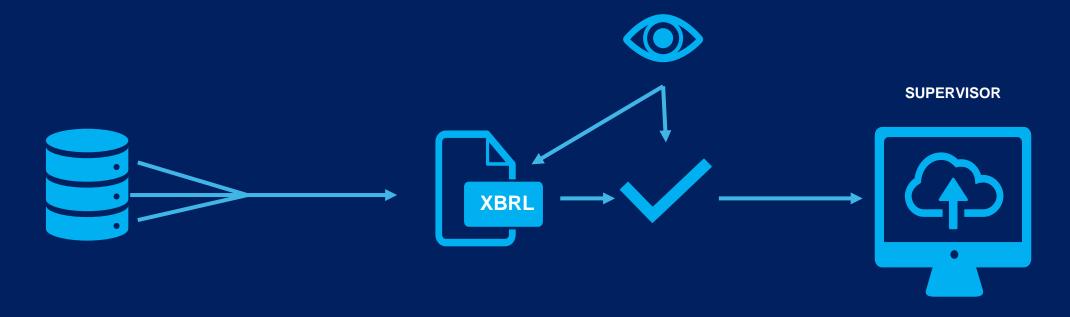
### Reporting Data Flow – Validity Checks

Validations done on excel file – before XBRL instance is created



## Reporting Data Flow – Assertions

Validations done on XBRL instance – just before submission



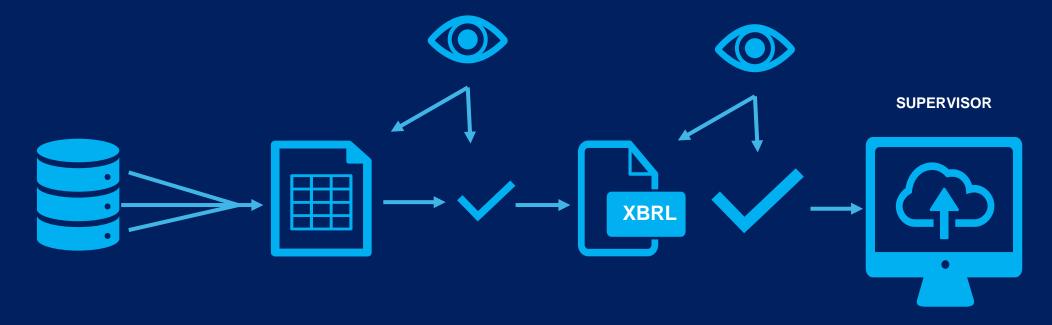
#### Reporting Data Flow – New Solution

### Both assertions and validity checks are required

ID	Replaces	Changed in framework release	Last Change	Deactivated on	Reactivated on	Deleted	Not Implemented in XBRL		Severit
v0985_m		2.9	Change	_				Manual	Blockir
v0986_m		2.9	Change					Manual	Blockir
v0987_m		2.9	Change					Manual	Blockir
v0988_m		2.9	Change					Manual	Blockir
v0992_m		2.9	Reactivate	6/23/201	4 8/21/2019	)	У	Manual	Non-bl
v1047_m		2.9	Change					Manual	Blockir
v1048_m		2.9	Change					Manual	Blockir
v1068_m		2.9	Change					Manual	Blockir
v1069_m		2.9	Change	3/10/201	6 4/27/2017	,		Manual	Blockir
v1099_m		2.9	Change					Manual	Blockir
v1139_m		2.9	Change	3/10/201	7 3/10/2017	,		Manual	Blockir
v2701_h		2.9	Change					Hierarchy	Blockir
v2702_m		2.9	Change					Manual	Blockir

## Reporting Data Flow – New Solution

Both assertions and validity checks are required



## **Example of Assertion**

#### Assertion and VC

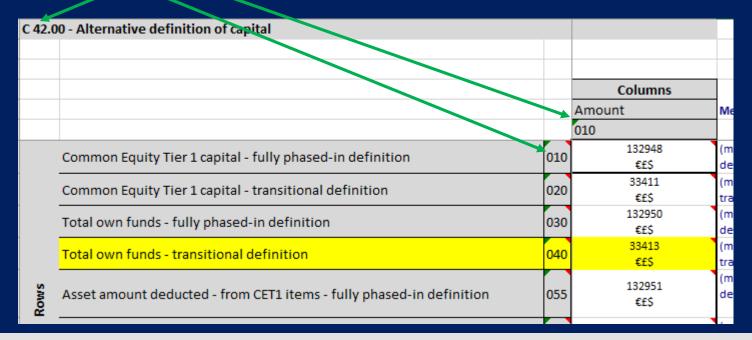
ID	Not Implemented in XBRL	Туре	Т1		Formula	Prerequisites - apply rule (only) if specified tables are reported (or for module containing the table if written in square brackets)	prerequisites met)	Arithmetic approach	Narrative explanati on / error message
→1	▼	▼	<b>*</b>	<b>T</b>	The state of the s		_	▼	
v0185_m		Manual	C 01.00		{r720, c010} = -{r970, c010}	C 01.00	treat as zero/empty string	Interval	
v4576_i	у	Identity	C 01.00	C 42.00	{C 01.00, r010, c010}=={C 42.00, r040, c010}	C 01.00 and C 42.00	do not run rule	Not applicable	

Capital Adequacy - Own funds definition		
		Columns
		Amount
		010
(-) AT1 instruments of financial sector entities where the institution has a significant investment	710	33313 £56
(-) Excess of deduction from T2 items over T2 Capital	720	33406 €£\$
Excess of deduction from AT1 items over AT1 Capital (deducted in CET1)	740	33408 €£\$
(-) Additional deductions of AT1 Capital due to Article 3 CRR	744	5521₹ €£\$
AT1 capital elements or deductions - other	748	33344 €£\$
TIER 2 CAPITAL	750	33412 ££\$
Capital instruments and subordinated loans eligible as T2 Capital	Manu	(r720, c010) = -{r970,
IRB Excess of provisions over expected losses eligible	910	33338 €£\$
SA General credit risk adjustments	920	17459 €£\$
(-) Reciprocal cross holdings in T2 Capital	930	32686
(-) T2 instruments of financial sector entities where the institution does not have a significant investment	940	3331⁄2 €£\$
(-) T2 instruments of financial sector entities where the institution has a significant investment	950	33315 €£\$
Excess of deduction from T2 items over T2 Capital (deducted in AT1)	970	33409 €£\$
(-) Additional deductions of T2 Capital due to Article 3 CRR	974	55219 €£\$
T2 capital elements or deductions - other	978	33346 €£\$
MOODY'S ANALYTICS		XBRL Assertions, December 2019

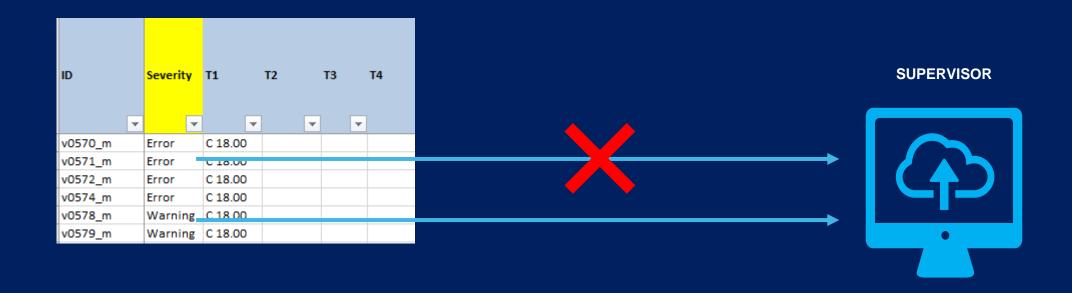
## Example of VC



v4576_i	У	Identity	C 01.00	C 42.00	{C 01.00, r010, c010}=={C 42.00, r040, c010}
	-				



# Assertion – things to know Severity



## Assertion – Things to know

	Tem	plate <	s table	<u>Annex I</u> -	nex I - REPORTING ON OWN FUNDS AND OWN FUNDS REQUIREMENTS					
	1011	ipiato >	labic							
	TableID → Temp	olateID - OriginalTabl	eCode →			COREP TEMPLATES				
+	325	337 A 00.01	Nature of Report (A	Template	Template	Name of the template /group of templates	Short name			
+	304	59 C 00.01	Nature of Report (C	number	code	Name of the template / group of templates	Short hame			
+	74	60 C 01.00	Capital Adequacy - (			CAPITAL ADEQUACY	CA			
+	75	61 C 02.00	Capital Adequacy - F	1	C 01.00	OWN FUNDS	CA1			
+	76	62 C 03.00	Capital Adequacy - F	2	C 02.00	OWN FUNDS REQUIREMENTS TEMPLATE	CA2			
+	77	63 C 04.00	Capital Adequacy - 1	3	C 03.00	CAPITAL RATIOS	CA3			
+	78	64 C 05.01	Capital Adequacy - 1	4	C 04.00	MEMORANDUM ITEMS:	CA4			
+	79	65 C 05.02	Capital Adequacy - 1			CREDIT RISK	CR			
+	80	66 C 06.00	Group Solvency	7	0.07.00	CREDIT AND COUNTERPARTY CREDIT RISKS AND FREE DELIVERIES: STANDARDISED APPROACH TO	CD CA			
+	326	66 C 06.01	Group Solvency - To	/	C 07.00	CAPITAL REQUIREMENTS	CR SA			
+	389	375 C 06.01	Group Solvency - Tot	al						
+	390	376 C 06.02	Group Solvency							
+	81	67 07.00.a	Credit and counterpa	arty credit risks	and free delive	ries: Standardisec				
+	82	67 C 07.00.b	Credit and counterpa	arty credit risks	and free delive	ries: Standardisec				
+	83	67 C 07.00.c	Credit and counterpa	unterparty credit risks and free deliveries: Standardisec						
+	84	67 07.00.d	Credit and counterpa	arty credit risks	and free delive	ries: Standardisec				
lm _										

Table of Contents		table / annotated template
COREP 2.8		Changes in 2.8.1.1 vs 2.8 highlighted in yellow. Errata corrections to 2.8.1.1 intial documentation highlighted in blue.
	C 07.00.a	Credit and counterparty credit risks and free deliveries: Standardised Approach to capital requirements
	C 07.00.b	Credit and counterparty credit risks and free deliveries: Standardised Approach to capital requirements - Of which: Arising from Counterparty Credit Risk
	C 07.00.c	Credit and counterparty credit risks and free deliveries: Standardised Approach to capital requirements - Memorandum items - Secured on Property
	C 07.00.d	Credit and counterparty credit risks and free deliveries: Standardised Approach to capital requirements - Memorandum items - in default
	C.08.01.a	Credit and counterparty credit risks and free deliveries: IRB Approach to capital requirements - TOTAL

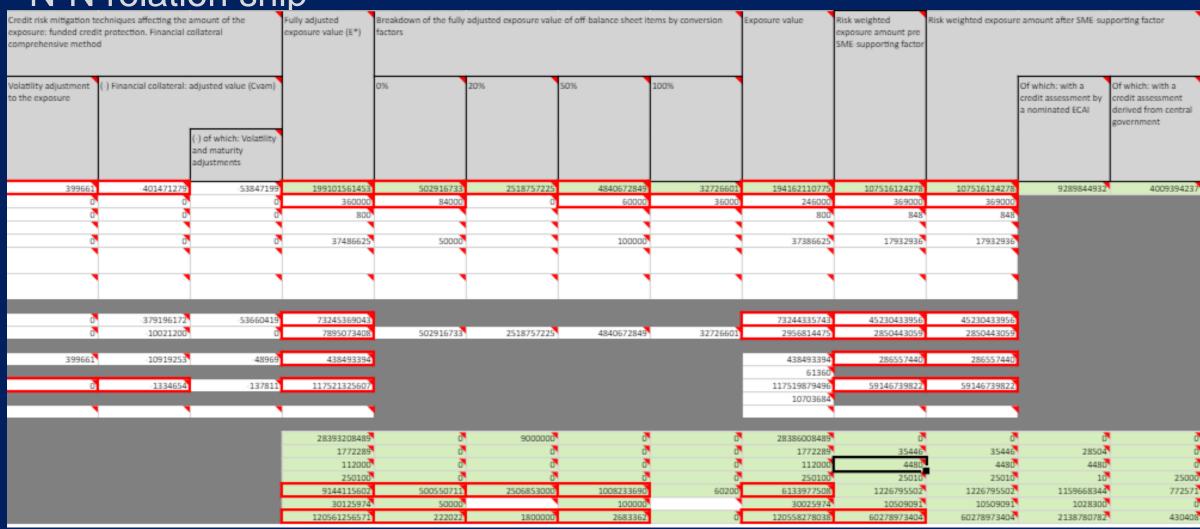
### Assertion – Things to know

#### One assertions can be executed several times

ID	rows	columns	sheets	Formula
v3540_i				{F 11.01, r500 , c030}=={F 11.02, r230 , c010}
v3541_i				{F 11.01, r500 , c040}=={F 11.02, r230 , c020}
v3542_i				{F 16.03, r180, c010}=={F 16.04, r140, c010}
v3684_s	(040;045;050;060;210;220	(010)		{C 01.00} >= 0
v3685_s	(070;080;090;091;092;170	(010)		{C 01.00} <= 0
v3686_s	(All)	(010)		{C 02.00} >= 0
v3687_s	(130;140;150;160;170;180	(010)		{C 03.00} >= 0
v3688_s	(010;020;030;040;050;060	(010)		{C 04.00} >= 0
v3689_s	(010;140;170;200;210;212	(040)		{C 05.01} >= 0
v3690_s	(020;030;040;050;060;070	(010)		{C 05.01} >= 0
v3691_s	(020;030;040;050;060;070	(020)		{C 05.01} >= 0
v3692_s	(020;030;040;050;060;070	(030)		{C 05.01} >= 0
v3693_s	(080;090;091;092;120;133	(060)		{C 05.01} >= 0
v3694_s	(010;020;090)	( <mark>020;030;040;060)</mark>		{C 05.02} >= 0
v3695_s	(All)	(010)		{C 05.02} >= 0
v3696_s	(All)	(060;070;080;090;100;110;	120;130;140;150;160;170;18	{C 06.02} >= 0
v3697_s	(010;015;020;030;040;050	(200)	(All)	{C 07.00.a} >= 0
v3698_s	(010;015;020;030;040;050	•	(All)	{C 07.00.a} >= 0
v3699_s	(010;015;020;030;040;050	-	(All)	{C 07.00.a} <= 0
0700	1040 045 000 000 040 050	(400 440 400)	(411)	(0.07.00.1)

### Assertion – Things to know

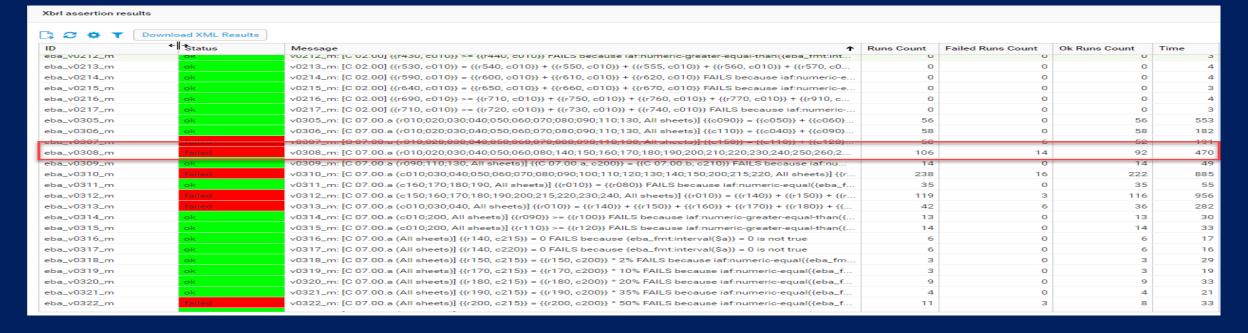
N-N relation ship





# XBRL Assertions – Summary of Results

	Regulatory Reports Prepared Audit Reports Transactional Reports  Transactional Reports										
- Lock	Profile	Supervisor	Framework	Report	Format	Check Results	Assertions	Company			
	оссрак_пок	I LU	TEL LED DITT TO TOTAL	NEI TIONT GITTI. NWA DCIIVAOLD	EXOCE ENVELOPE INSTANCE	0/110		DQL_TAIIII			
	Deepak COREP	CRD	COREP OF EBA2.8		XBRL - INSTANCE		17/191	ALL_DB_1			
	Deepak COREP	CRD	COREP OF EBA2.8	COREP CRD 08 CR IRB 1	Clicking on this link w	ill		ALL_DB_1			
	Deepak COREP	CRD	COREP OF EBA2.8	COREP CRD 07 CR SA	open below pop-up			ALL_DB_1			
V	Deepak COREP	CRD	COREP OF EBA2.8	COREP CRD 02 CA2	EXCEL - L		<i>\</i> 3	ALL_DB_1			
	Deepak COREP	CRD	COREP OF EBA2.8	COREP CRD 01 CA1	EXCEL - ENVELOPE - INSTANCE	37/100		ALL_DB_1			

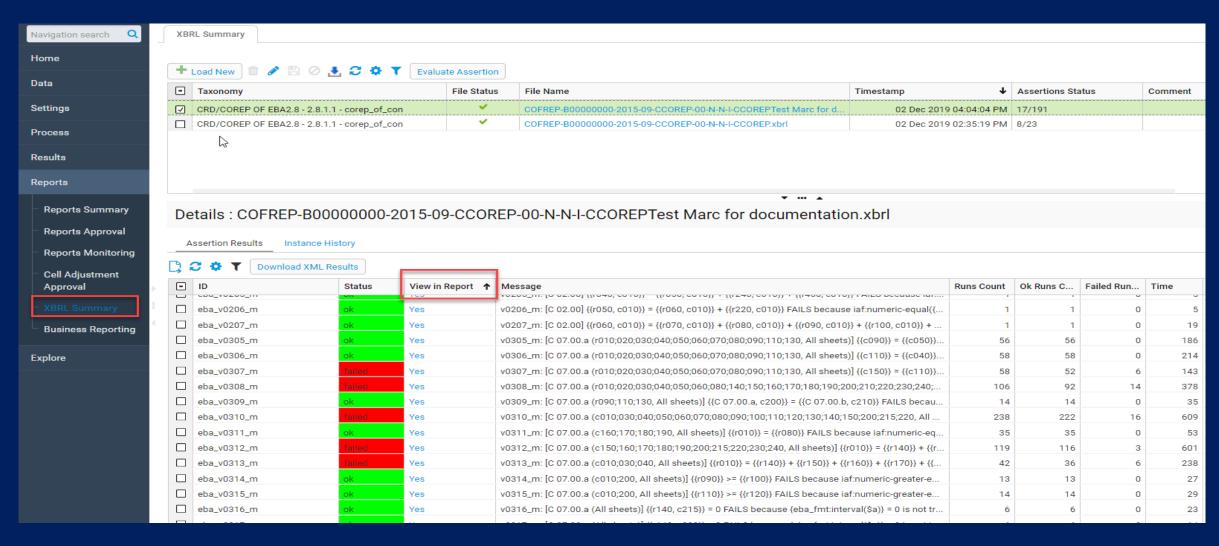


# XBRL Assertions – Severity of Error

D (	Download XML Results										
-	ID 1/2	Status	Severity	View in Report	Message	Runs Count	Ok Runs C	Failed Runs Count	Time	Assertion Type	
	s2md_BV783-3	failed	WARNING	Yes	BV783-3: {{\$.06.02.04.01,c0170}} = {{\$.06.02.04.01,c01	1,973	1,972	1	10,877	valueAssertion	
	s2md_BV784-3	failed	WARNING	Yes	BV784-3: {{\$.06.02.04.01,c0170}} = {{\$.06.02.04.01,c01	2,674	2,632	42	17,400	valueAssertion	
	s2md_BV790-3	failed	ERROR	Yes	BV790-3: empty({{\$.06.02.04.01,c0130}}) and not(empt	4,647	2,674	1,973	6,083	valueAssertion	
	s2md_BV772-3	failed	WARNING	Yes	BV772-3: if {{\$.01.01.04.01,r0550,c0010}}=[s2c_CN:x1]	1	0	1	208	valueAssertion	
	s2md_BV793-3	failed	WARNING	Yes	BV793-3: not(empty({{\$.06.02.04.02,c0320}})) or not(e	1,299	900	399	3,059	valueAssertion	
	s2md_BV914-1	failed	WARNING	Yes	BV914-1: [ (c0120)] {{S.27.01.04.02, r0820}} = exp(({{S	1	0	1	480	valueAssertion	
	s2md_BV780-3	failed	WARNING	Yes	BV780-3: matches({{\$.06.02.04.02,c0290}},"^((XL) (XT)	856	299	557	10,448	valueAssertion	

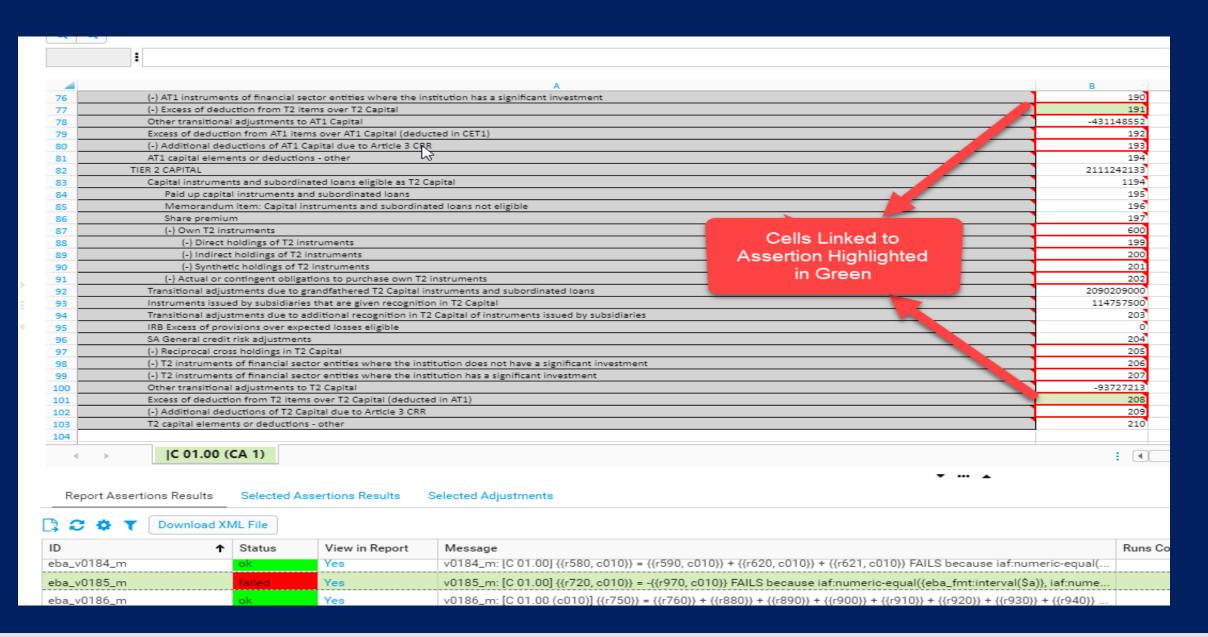
D (	Download XML Results										
•	ID	Status ↓	Severity	View in Report	Message	Runs Count	Ok Runs C	Failed Runs Count	Time	Assertion Type	
	s2md_BV645_1-2	ok	ERROR	Yes	BV645_1-2: if {{\$.26.05.04.05, r0010,c0010}} = [s2c_AP	1	1	0	210	valueAssertion	
	s2md_BV651_1-2	ok	ERROR	Yes	BV651_1-2: [ (c0020)] {{\$.26.06.04.01, r0320}} = min({{	1	1	0	73	valueAssertion	
	s2md_BV671-1	ok	ERROR	Yes	BV671-1: [ (c0100)] {{\$.25.01.04.02, r0220}} = {{\$.25.01	1	1	0	124	valueAssertion	
	s2md_BV678-1	ok	WARNING	Yes	BV678-1: if {{\$.26.05.04.05, r0010,c0010}} = [s2c_AP:x	1	1	0	134	valueAssertion	
	s2md_BV680-1	ok	WARNING	Yes	BV680-1: if {{\$.26.05.04.05, r0010,c0010}} = [s2c_AP:x	1	1	0	130	valueAssertion	
	s2md_BV702-3	ok	ERROR	Yes	BV702-3: if {{\$.01.02.04.01, r0170,c0010}} = [s2c_PU:x	1	1	0	599	valueAssertion	
	s2md_BV707-3	ok	WARNING	Yes	BV707-3: {{\$.01.02.04.01, r0090,c0010}} le {{\$.06.02.04	1,418	1,418	0	1,790	valueAssertion	

## XBRL Assertions — Excel Viewer

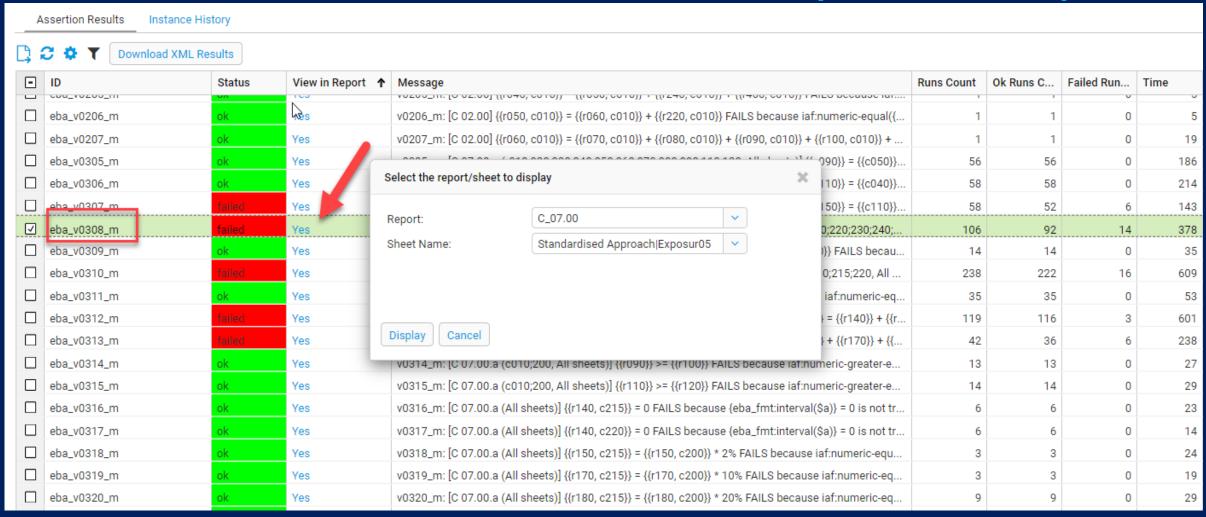


# XBRL Assertions – Simple Example

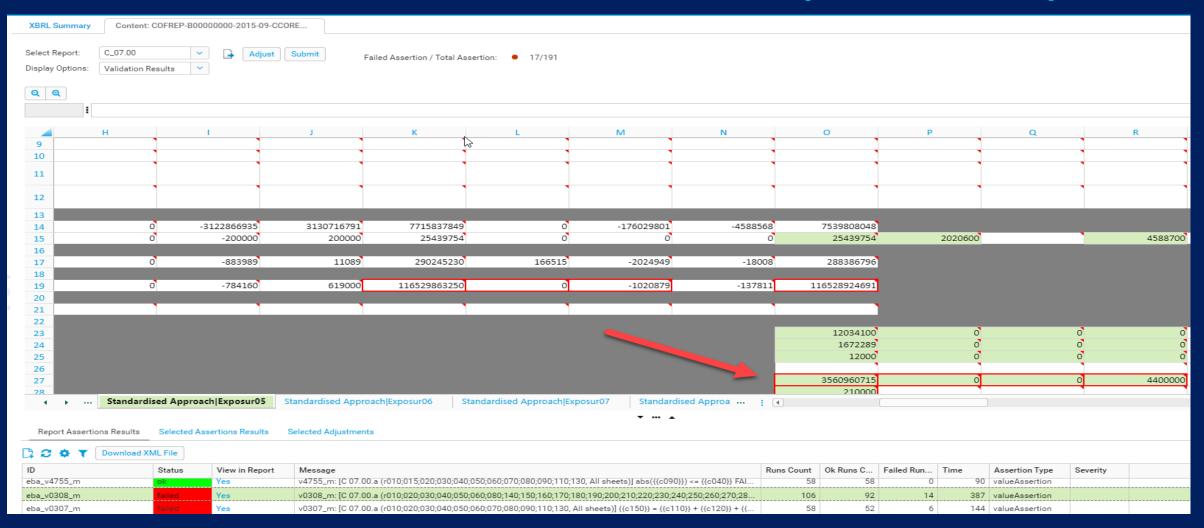




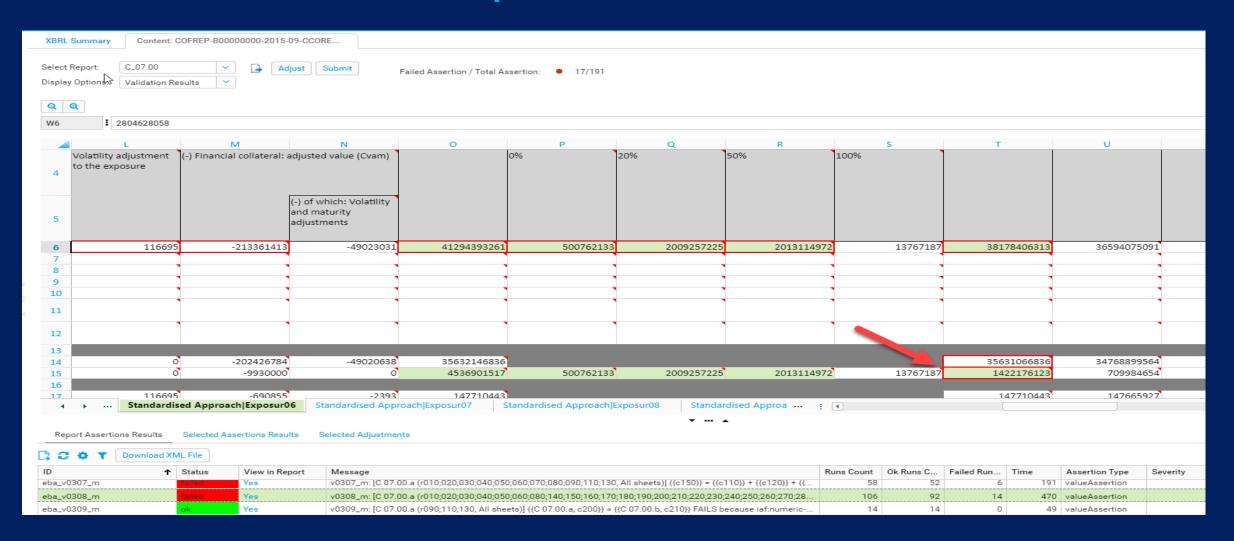
# XBRL Assertions - Multi Sheet/Report Example



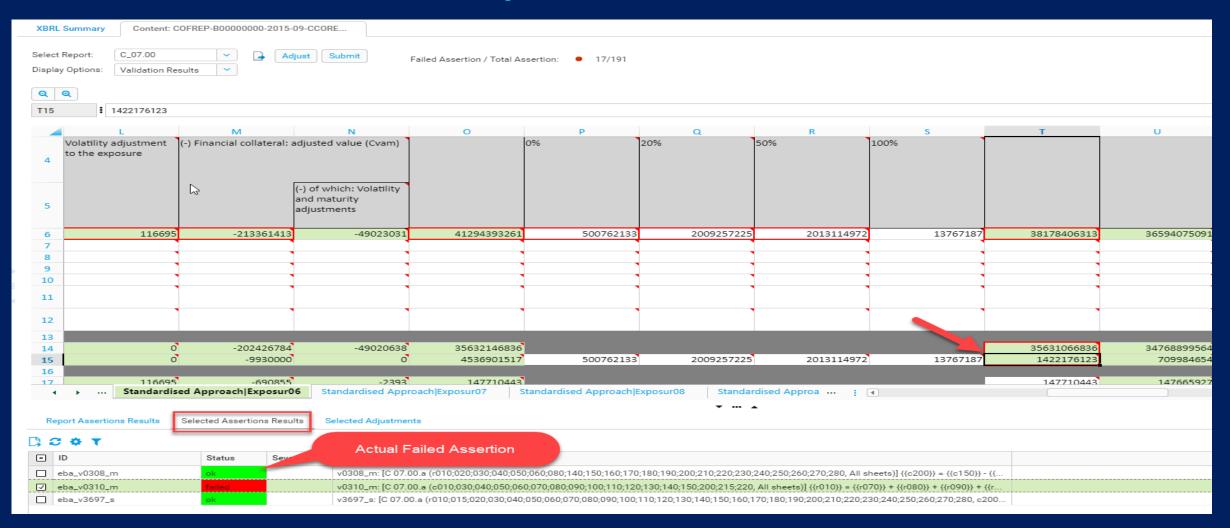
# XBRL Assertions - Multi Sheet/Report Example



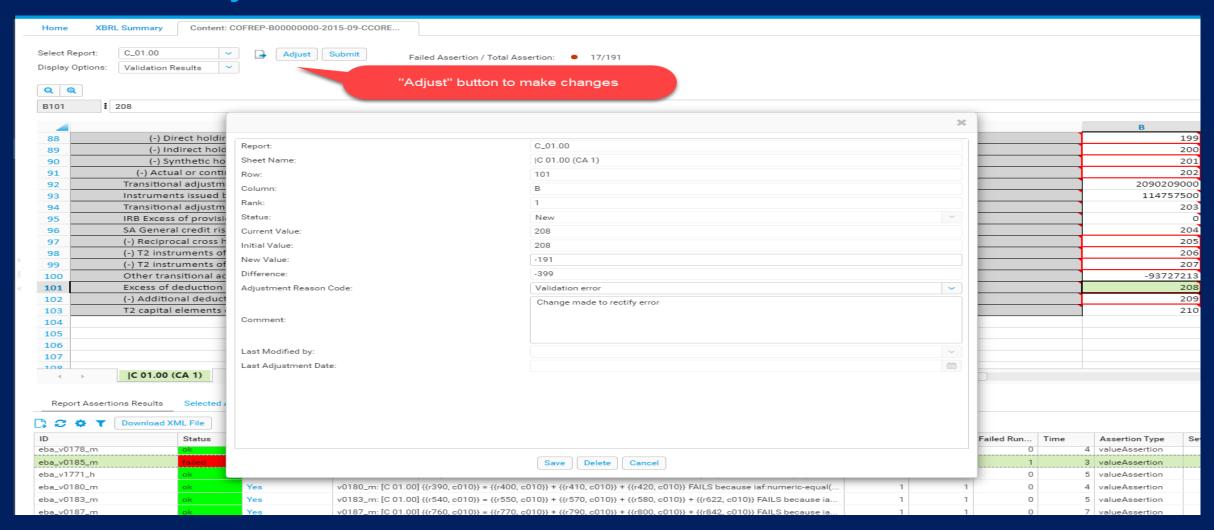
## XBRL Assertions: Tips for Failed Assertions



## XBRL Assertions - Tips for Failed Assertions



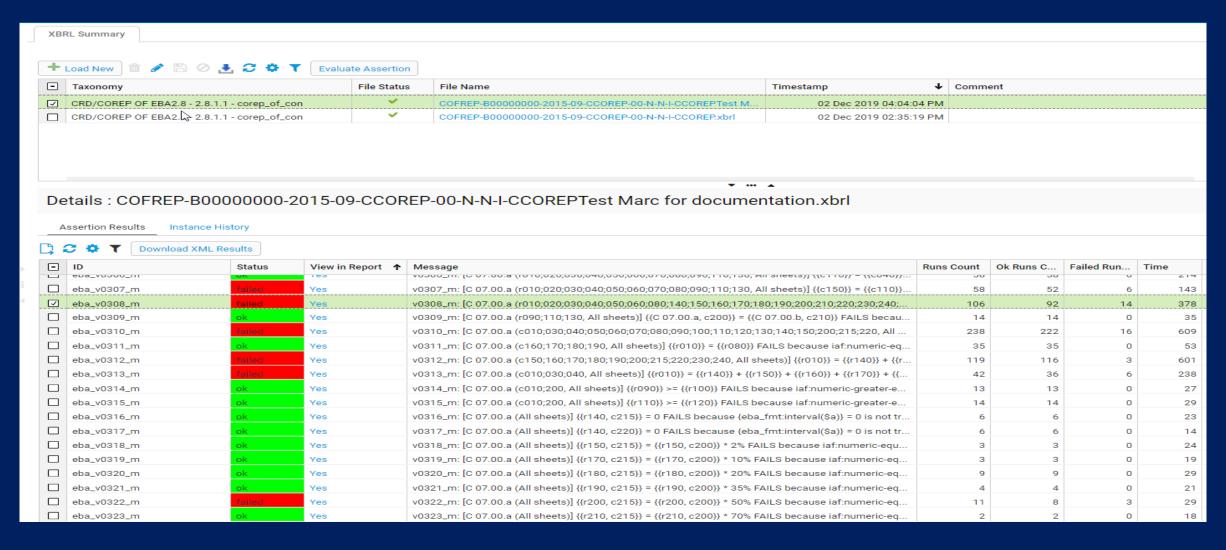
# XBRL Adjustments in Excel viewer



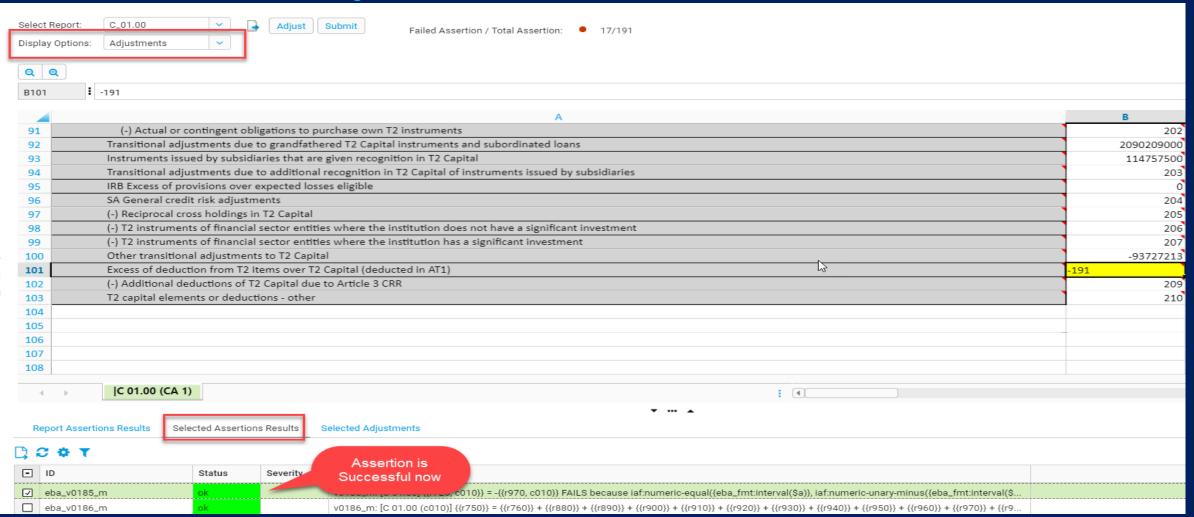
# Saved Adjustments in Excel Viewer



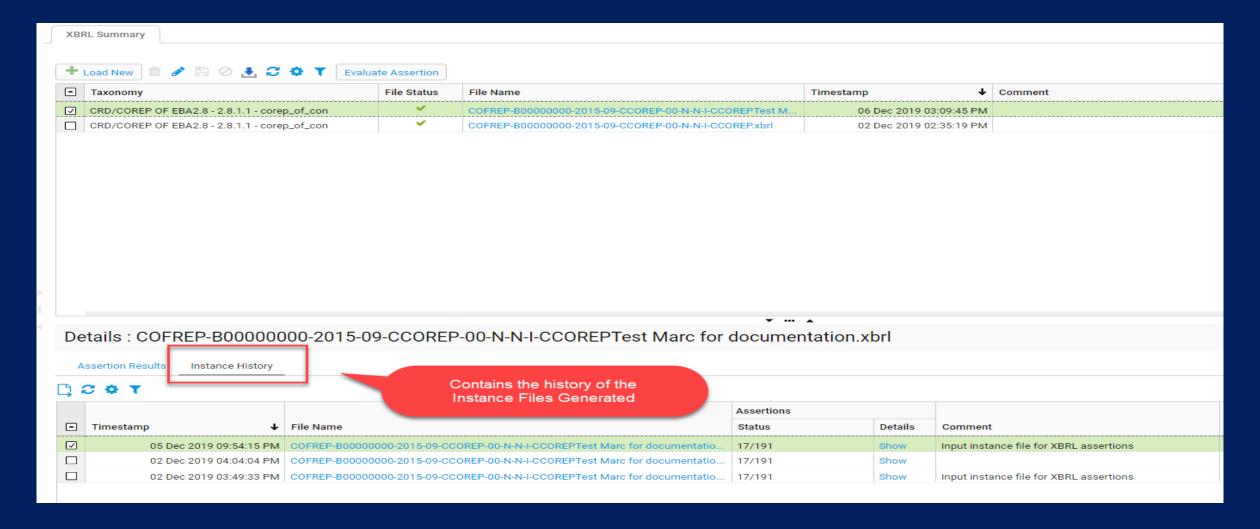
## New Instance Generated with Assertion Results



## Outcome of Adjustment Made



## XBRL Assertions – Instance History



# XBRL Assertions – Integration in RRT

Adv	Advanced Settings: CRD,COREP OF EBA2.8									
	Reporting Process Steps	Reports	Parameters	Reporting Filters	XBRL Emission Parameters					
	Store Technical Dimension	ns Results (0	ptional)							
	Calculate Additional Own Funds									
<b>⋖</b>	Aggregate Results									
<b>~</b>	Publish Reports									
	Validate Excel Reports									
$\blacksquare$	Validate XBRL Reports									
	Prepare Audit Reports									
	Prepare BI Audit									
	Launch RFoDiscovery extractors									



# Regulation

EBA2.9+ EIOPA 2.3 EIOPA 2.4+



## Software version

V6.2 V7.1+



# Moody's analytics

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