

# **Troubled Debt Restructure Tracking**

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#### **Overview:**

This application is designed to assist in the fulfillment of troubled debt compliance regulations by providing an electronic means to track and update loan restructuring activities with the capability to automatically number and track each loan provision. The application provides for activity record generation for audit purposes. The application also allows for preview and printing of loan restructure activities.

### **Key Benefits:**

- Assists in the fulfillment of troubled debt compliance regulations
- Provides for activity record generation for audit purposes

### Processing:

In either the Person/Member Maintenance or Organization Maintenance, after the selected member/customer appears on the screen, the user will go to the Additional menu item and select Loan Restructure Tracking. A screen with account list will appear, if there are no accounts to display a message will show as "No Information Found." To view the loan restructure activities on an account, double click the account. The Summary section will list loan restructure activities if available; otherwise, a message will be displayed as "No Information Found."

To add a new activity, click the Add button, complete the entry form and click on "Process". The modification number is incremented automatically. If the bankruptcy checkbox is checked, all 3 textboxes (Date of Notice, Bankruptcy Type and Case Number) will be enabled; otherwise, disabled. If the number of modification exceeds the number on the calculation variable NbrMod, a message will be displayed as "The maximum number of modifications is \_\_\_\_\_." The interest rate entered must also be less than or equal to 100 or a message will be displayed as "The interest rate must be less than or equal to 100." If a user input ";", "&" or some SQL words, a message will be displayed as "Some special characters and SQL reserved words are not allowed." If the Date of Notice is greater than the Post Date, a message will be displayed as "The bankruptcy date cannot be a future date." If the user attempts to click the Process button twice, a message will be displayed as "The data has already been added." After processing successfully, a message will be displayed as "Processed Successfully."; otherwise, a message will be displayed as "Cannot add data, please try again later."

To update an existing activity, double click a record in the Summary section and make the necessary changes. After processing successfully, a message will be displayed as "Processed Successfully."; otherwise, a message will be displayed as "Cannot update data, please try again later." If the user does not make any changes and click the Process button anyways, a message will be displayed as "No changes made."

To delete an activity, select row(s) in the Summary section and click the Delete button. A message will be displayed as "Are you sure you want to delete the selected row(s)?" Click Yes to delete the row(s) or No to cancel. A message will be displayed as "Cannot delete data, please try again later." if delete was unsuccessful.

To view or print an activity, select row(s) in the Summary section and click View / Print button. If the report viewer DLLs are not in the specified folder or the LocDLL calculation variable is blank, a message will be displayed as "Report viewer DLLs are missing in the \_\_\_\_\_ folder.", where \_\_\_\_\_ is the folder path setup in the LocDLL calculation variable.

#### Authorization:

To grant a user access to this application, the authorization item TDR Tracking Form Auth Item (R0GD) needs to be assigned to an authorization group, such as tellers (TELL), to which the user has at least View and Inquiry access privileges. To grant users with update privilege, the TDR Tracking Update AuthItem (R0GB) needs to be assigned to the authorization group as well.

The following table lists the AuthItem that is used in the application:

Name	Code	Туре	Description (how used)
TDR Tracking Form	R0GD	AuthItem	Authorization item for screen and GUI
AuthItem			access.
TDR Tracking Update Auth	R0GB	AuthItem	Authorization item for Update access
Item			through CAPIs.

#### Parameters:

N/A.

### Variables:

Only the value of the variables 9R70 to 9R78 can be customized by the financial institution.

#### Calculation Categories:

A calculation category is required to associate the variables to the application. The following calculation category is used for that purpose.

Calculation Cat Code	Description (how used)
9RFC	Custom Category

#### Calculation Types:

A calculation type is required to associate the variables to the application. The following calculation type is used for that purpose.

Calculation	Calculation Type		
Cat Code	Code	Description (how used)	MjMiYN
9RFC	9R0G	Loan Restructure Tracking	Ν

## Calculation Variables:

The following calculation variables are required for the application. They are populated within the '9R0G' calculation type.

		Description (how	Data	
Variable	Code	used)	Туре	Default
DocRef	9R70	Use document	STR	Y
		reference, Y or N		
NbrMod	9R71	Number of allowable	STR	99
		Ioan modification		
LocDLL	9R72	Report viewer folder	STR	G:\OSI\CORE\BIN\
		path		
DocClass	9R73	Document	STR	Confidential
		Classification –		
		Confidential,		
		Proprietary or Public		
LogoFile	9R74	Financial Institution	STR	G:\OSI\CORE\IMAGES\FI_logo.j
		Logo File Name and		pg
		Path		
AppTitle	9R75	Application Title	STR	Loan Restructure Tracking
AcctTyp	9R76	Major type code of the	STR	CNS,CML,MTG,EXT,CK,SAV
		loans applicable for this		
		application		
CCtyp	9R77	External id type code to	STR	MASK
		get the credit card		
		number		
TempFolder	9R78	Folder path to use for	STR	C:\Temp\
		storing the PDF file		
		temporarily. If left		
		blank, C:\ is used.		

## EXTN Schema:

This application creates 5 external tables: ModType, ModTypeDetail, ModLength, BankruptcyType and LoanRestructureTracking. ModType stores a list of loan modification type that will be used for the LoanRestructureTracking table. ModTypeDetail stores a list of loan modification type detail that will be used for the LoanRestructureTracking table. ModLength stores a list of loan modification length that will be used for the LoanRestructureTracking table. BankruptcyType stores a list of bankruptcy type that will be used for the LoanRestructureTracking table. LoanRestructureTracking contains all the loan restructure activities on loans that were modified. All five tables will not be deleted when the application is uninstalled because the data are required for audit purposes.

## ModType

Name	Description (how used)	Data Type	Default
ModTypCd	Type of loan restructure modification	VARCHAR2 (4 BYTE)	Blank
Description	Description for ModTypCd	VARCHAR2 (60 BYTE)	Blank
DateLastMaint	The date when the row was most recently updated	DATE	Sysdate

## ModTypeDetail

Name	Description (how used)	Data Type	Default
ModTypDtlCd	Detail type of loan restructure modification	VARCHAR2 (4 BYTE)	Blank
Description	Description for ModTypDtlCd	VARCHAR2 (60 BYTE)	Blank
DateLastMaint	The date when the row was most recently updated	DATE	Sysdate

## ModLength

Name	Description (how used)	Data Type	Default
ModLengthCd	The length of loan restructure modification performed on the loan	VARCHAR2 (4 BYTE)	Blank
Description	Description for ModLengthCd	VARCHAR2 (60 BYTE)	Blank
ModDays	Number of Days based on ModLengthCd	NUMBER (22,0)	Blank
DateLastMaint	The date when the row was most recently updated	DATE	Sysdate

## BankruptcyType

Namo	Description (how used)	Data Typo	Dofault
Name		Dala Type	Delault
BankruptTypCd	Type of bankcruptcy	VARCHAR2 (4 BYTE)	Blank
Description	Description for BankruptTypCd	VARCHAR2 (60 BYTE)	Blank
DateLastMaint	The date when the row was most recently updated	DATE	Sysdate

## LoanRestructureTracking

Name	Description (how used)	Data Type	Default
AcctNbr	System assigned number that uniquely	NUMBER	Blank
	identifies each account	(22,0)	
ModNbr	System assigned number used to identify	NUMBER	Blank
	each modification	(22,0)	
ModTypCd	Type of loan restructure modification	VARCHAR2 (4	Blank
		BYTE)	
ModDate	Date of modification	DATE	Blank
UpdateBy	The person who created or updated the	VARCHAR2	Blank
	modification	(60 BYTE)	
ApproveBy	The person who approved the modification	VARCHAR2	Blank
		(60 BYTE)	
DocRef	Reference number of the document related	VARCHAR2	Blank
	to the modification	(60 BYTE)	
ModTypDtlCd	Detail type of loan restructure modification	VARCHAR2 (4	Blank
		BYTE)	
ModLengthCd	The length of loan restructure modification	VARCHAR2 (4	Blank
	performed on the loan	BYTE)	
DaysDelinqBefor	Number of days the loan is delinquent	NUMBER	Blank
е	before modification	(22,0)	
StatBefore	The status of the loan before modification	VARCHAR2 (4	Blank
		BYTE)	
OrigIntRate	The original interest rate of the loan	NUMBER (8,7)	Blank
IntRateAfter	The interest rate of the loan after	NUMBER (8,7)	Blank
	modification		
BalAmtBefore	The principal balance of the loan before	NUMBER	Blank
	modification	(22,5)	
BalAmtAfter	The principal balance of the loan after	NUMBER	Blank
	modification	(22,5)	<b>D</b>
CollateralVal	The fair value of the collateral associated		Blank
	with the loan	(22,5)	<b>.</b>
NoticeDate	The date of notice of the bankruptcy		Blank
BankruptTypCd	Type of bankruptcy	VARCHAR2 (4	Blank
0 NI		BYIE)	<b>D</b>
CaseNbr	The case number associated with the		Blank
DateLastMaint	updated	DATE	Sysdate

This application uses a script (EXTNinsertRows.sql) to insert 3 required modification types (LMOD, TDR and IMPR) in the ModType table, 7 required bankruptcy types (CH7, CH11, CH12, CH13, DCHG, DSMS and RAFM) in the BankruptcyType table, 3 required modification types detail (EXTN, RWRT, RNWL) in the ModTypeDetail table and 10 required length of modification (1MO, 2MO, 3MO, 4MO, 5MO, 6MO, 7MO, 8MO, 9MO, PRMT) in the ModLength table.

# Scheduling and re-run information (for batch applications): $N/\Delta$

N/A

## Notices:

N/A

## Report (s):

N/A

## File Layout(s):

N/A

## Screens:

## Navigation:

Services > Relationships (Module) > Maintenance > Person / Member > Additional > Loan Restructure Tracking

Services > Relationships (Module) > Maintenance > Organization > Additional > Loan Restructure Tracking

### Screen Appearance:

Account Number	Account Description	Status	Credit Card Number
10.00	Checking Account	Closed	
	Savings Account	Dormant	
1000 C	Charge off Shares	Chargeoff	
100000	Unsecured Fixed Closed End	Chargeoff	
	Automobile 61 Month or less	Non-Accrual	

Add   Delete   View / Print     Account Number     Immary     Coldification   Date Modified   Updated By   Document Reference   Detail Type of Modification   Length of Modification     1   Trouble Debt Restructure   10-02-2012   Kim   Mike   Extension   3 Months (90 Debt	on -							
Add Delete View / Print   Immany   Iodification # Action Date Modified Updated By Approved By Document Reference Detail Type of Modification   1 Troukle Debt Restructure 10-02-2012 Kim Make Extension 3 Months (90 December)	an Restruc	ture Tracking						
Add Delete View / Print Account Number   minary minary Date Updated By Approved By Document Reference Detail Type of Modification Length of Modification   1 Trouble Debt Restructure 10-02-2012 Kim Mike Extension 3 Months (90 Debt								2
Intrinsity       Idedification #     Action     Date Modified     Updated By     Approved By     Document Reference     Detail Type of Modification     Length of Modification       1     Troukle Debt Restructure     10-02-2012     Kim     Mike     Extension     3 Months (90 During Contents)	Add	Delete	/iew / Print			Account Number		
#     Action     Modified Modification     Updated By     Approved By     Reference     Document Modification     Modification       1     Trouble Debt Restructure     10-02-2012     Kim     Mile     Extension     3 Months (90 Debt)	Immary Addition		Date			Document	Detail Type of	L ongth of
1 Trouble Debt Restructure 10-02-2012 Kim Mike Extension 3 Months (90 D	#	Action	Modified	Updated By	Approved By	Reference	Modification	Modification
	1	Trouble Debt Restructure	10-02-2012	Kim	Mike		Extension	3 Months (90 Days)
	lose							

I			
Account Number	and the second second		
Member Name	and the second		
Action	» Trouble Debt Restruct	Ire.	
Modification #	1	Modification Date	10.02.2012
Lindated By	» Kim	mounication bate s	•
Approved By	» Mike		
Document Reference			
tail Type of Modification	» Extension	~	
Length of Modification	» 3 Months (90 Days)	~	
Days deling	uent before modification	»	977
St	atus before modification	» Non-Accrual	~
	Original interest rate	»	8.60000
Intere	st rate after modification	»	5.25000
Principal Bala	nce before modification	»	795.01
Principal Ba	alance after modification	»	795.01
_	Collateral Fair Value		1,275.00
Bankruptcy?	» 07-03-2012 🔺 🎹		
Bankruntov Type	> Chanter 13		
Case Number	» croptor to		
Case Hamber	-		

View «< < > >>			
Loan Restruc	ture Tracking		
	Account Number		
	Member Name		
	Action	Loan Modification	
	Modification #	1	
	Modification Date	02-01-2012	
	Updated By	Initial Upload	
	Approved By	Initial Upload	
Do	cument Reference		
DetailT	/pe of Modification	Rewrite	
Len	gth of Modification	3 Months (90 Days)	
Days Delinquent	efore Modification		
Status t	efore Modification		
Ori	ginal Interest Rate		
Interest Rate	after Modification		
Principal Balance t	efore Modification	11,109.70	
Principal Balance	after Modification	11,109.70	
C	ollateral Fair Value		
	Date of Notice		
	Bankruptcy Type		
	Case Number		
Confidential - 1			-

## Field Listing:

Loan Restructure Tracking Account List Screen

Field	Description
Account Number	Account number of the loans, credit cards and deposit accounts
Account Description	Minor code description of the account
Status	Account current status
Credit Card Number	Credit card number of the account. Only applies to credit cards;
	otherwise, blank.
Close Button	Close the form

Loan Restructure Tracking Summary Screen

Field	Description
Add Button	Add a new Loan Restructure activity
Delete Button	Delete an existing Loan Restructure activity
View / Print Button	Display and/or Print the information related to the Loan Restructure
	activity
Account Number	Account number of the loans, credit cards and deposit accounts
	Summary
Modification #	Modification number of the Loan Restructure Tracking, incremented
	automatically
Action	Type of Loan Restructure modification
Date Modified	The date the Loan Restructure activity was created or updated
Updated By	The person who created or updated the Loan Restructure activity
Approved By	The person who approved the Loan Restructure activity
Document	The reference number of the document associated with the Loan
Reference	Restructure activity
Detail Type of	Detail type of Loan Restructure modification. Only applies to consumer
Modification	loans and credit cards; otherwise, blank.
Length of	The length of Loan Restructure modification performed on the loan. Only
Modification	applies to consumer loans and credit cards; otherwise, blank.
Close Button	Close the form

Loan Restructure Tracking Detail Screen

Field	Description
Account Number	Account number of the loans, credit cards and deposit accounts
Member/Customer	Name of the account owner. Member Name or Customer Name
Name	depending on the Financial Institution.
Action	Type of Loan Restructure modification
Modification #	Modification number of the Loan Restructure Tracking, incremented
	automatically
Modification Date	The date the Loan Restructure activity was created or updated. Disabled
	if action selected is Impaired.
Updated By	The person who created or updated the Loan Restructure activity

Field	Description
Approved By	The person who approved the Loan Restructure activity. Disabled if action selected is Impaired.
Document	Reference number of the document associated with the Loan
Reference	Restructure activity, only visible if the DocRef calculation variable is set
	to Y
Detail Type of	Detail type of Loan Restructure modification. Only required for consumer
Modification	loans and credit cards; otherwise, disabled.
Length of	The length of Loan Restructure modification performed on the loan. Only
Modification	required for consumer loans and credit cards; otherwise, disabled.
Days delinquent	Number of days the loan is delinquent before modification. Disabled if
before modification	action selected is Impaired.
Status before	The status of the loan before modification. Disabled if action selected is
modification	Impaired.
Original interest rate	The original interest rate of the loan. Disabled if action selected is
	Impaired.
Interest rate after	The interest rate of the loan after modification. Disabled if action
modification	selected is Impaired.
Principal balance	The principal balance of the loan before modification. Disabled if action
before modification	selected is Impaired.
Principal balance	The principal balance of the loan after modification. Disabled if action
after modification	selected is Impaired.
Collateral Fair Value	The fair value of the collateral associated with the loan
Bankruptcy?	If checked, all 3 bankruptcy textboxes (Date of Notice, Bankruptcy Type
	and Case Number) will be enabled; otherwise, disabled
Date of Notice	The date of notice of the bankruptcy
Bankruptcy Type	Type of bankruptcy
Case Number	The case number associated with the bankruptcy
Close Radio Button	Close the form after the process button is clicked
Review Radio	Keep the data on the screen for review after the process button is
Button	clicked
Process Button	Add a Loan Restructure activity or update an existing one in the
	LoanRestructureTracking table
Close Button	Close the form

### Additional Requirements:

- Fiserv DNA 4.2.2 or above
- .NET Framework 4.5.2
- MigraDoc Foundation needed to preview and print the Verification of Deposit form. This is an Open Source .NET library for modeling and rendering documents. The following DLLs are needed to be copied to the folder that was setup on the variable LocDLL.
  - MigraDoc.DocumentObjectModel.dll
  - MigraDoc.Rendering.dll
  - MigraDoc.RtfRendering.dll

MigraDoc Foundation is published under the MIT License.

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OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE A	AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COP	YRIGHT
HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIAB	BILITY,
WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,	ARISING
FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR TH	IE USE OR
OTHER DEALINGS IN THE SOFTWARE.	

- This also applies to commercial products (both open source and closed source).
- PDFsharp needed to convert the Verification of Deposit form to a PDF file. This is an Open Source library that easily creates PDF documents from any .NET language. The PdfSharp.dll is needed to be copied to the folder that was setup on the variable LocDLL.

PDFsharp is published under the MIT License.

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- PDFsharp is Open Source.
- You can copy, modify and integrate the source code of PDFsharp in your application without restrictions at all.
- This also applies to commercial products (both open source and closed source).
- Authorization needs to be granted to employees who will be using the Loan Restructure Tracking App.
  - 1. If the app is going to be used by a small number of employees, you may elect to use the "auth" created in the script as follows:

- Go into Security module
- Search for employee
- Select Assign Authorizations tab
- Authorizations available are on left, and assigned ones are on right. The TDR Tracking Form Auth and TDR Tracking Update Auth would show up on left. They should be selected (moved to right) and processed
- 2. If the app is going to be used by one or more already established classes of employees (e.g., all Tellers) then there is already an existing Auth that represents the class of employees. Using this Auth, and the AuthItem code for Loan Restructure Tracking App, assign the newly created AuthItem into this Auth.
  - Go into Security module, then Authorizations menu
  - Search for the Auth that represents the class of employees
  - Select the Authorization Item Maintenance tab
  - Authorization Items available are on left, and assigned ones are on right. The CAPR 7783, TDR Tracking Form AuthItem and TDR Tracking Update AuthItem would show up on left. They should be selected (moved to right) and processed
  - Select the CAPR 7783 from the Selected list and click on the Authorization Permission Maintenance. Move all the available permission to the Selected list and processed
  - Select the TDR Tracking Form AuthItem from the Selected list and click on the Authorization Permission Maintenance. Move all the available permission to the Selected list and processed
  - Select the TDR Tracking Update AuthItem from the Selected list and click on the Authorization Permission Maintenance. Move all the available permission to the Selected list and processed

#### **Configuration Checklist:**

Item	Test Environment	Production Environment
Variables		
Associate Auth, Auth Item, corresponding Permissions		

#### **Revisions:**

Date	App Version #	Change
09/2017	2.1.0.0	Replaced the Microsoft Report Viewer so the form can be preview/print on DNA 4.2.2 and above. Added variable 9R78 - Temp Folder. Use CoreAPI Service for data update.

Date	Арр	Change
	Version #	
11/2016	2.0.0.0	Compiled in DNA SDK 4.2.2 and .Net Framework 4.5.2
11/2012	1.1.1.0	Added deposit accounts to the account list screen. Added
		modification type detail and length of modification fields.
04/2012	1.0.4.0	Added another screen to list loans and credit cards. Fixed
		issue with Date of Notice.
03/2012	1.0.0.0	Application Created.