### Problem

Within the Payroll Canada System, a critical void was identified in the T4 Slip functionality, impacting the accuracy and completeness of crucial financial documentation. The existing structure lacked two pivotal fields—EI Insurable Earnings (Box #24) and CPP Pensionable Earnings (Box #26) in the T4 Slip.

Employers name -	- Nom de l'employeur	n de l'employeur		Canada Reve Agency	venue Agence du revenu du Canada			T4 Statement of Remuneration Paid État de la rémunération payée		
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This absence posed a substantial challenge as it hindered the system's ability to comprehensively capture and reflect employee earnings, particularly in relation to Employment Insurance (EI) and Canada Pension Plan (CPP) contributions.

The subsequent sections will provide insights into the process of integrating El Insurable Earnings and CPP Pensionable Earnings into the T4 Slip and the transformative impact it had on resolving this inherent problem.

## **Objective**

The primary objective of this initiative is to seamlessly integrate two indispensable fields, namely EI Insurable Earnings (Box #24) and CPP Pensionable Earnings (Box #26), into the T4 Slip of the Payroll Canada System. These fields play a pivotal role in reflecting the accurate financial picture of employees, specifically concerning Employment Insurance (EI) and Canada Pension Plan (CPP) contributions.

Our focus is on establishing meticulous formulas for the computation of these fields, ensuring precision and compliance. The El Insurable Earnings (Box #24) will be derived by dividing the Employee El Premium (Box #18) by the El Premium Rate. This rate is dynamically influenced by changes in the

Employee EI Premium, which represents the amount deducted from an employee's earnings in a given year.

```
The formula for calculating the same are given below,

EI Insurable Earnings (24) = Employee EI Premium (18) / EI Premium Rate

CPP Pensionable Earnings (26) = (Employee CPP Contribution (16) / CPP Contribution Rate) + CPP Exempt Amt
```

Simultaneously, the CPP Pensionable Earnings (Box #26) will be computed by combining two critical components. Firstly, the Employee CPP Contribution (Box #16) divided by the CPP Contribution Rate, representing the amount contributed to the Canada Pension Plan during the year. Secondly, the CPP Exempt Amount will be factored into the calculation. It is important to note that both the El insurable earnings rate and the CPP contribution percentage rate undergo annual variations.

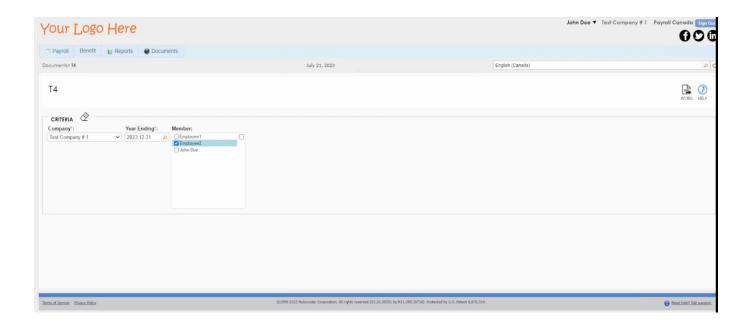
The implementation of these refined formulas is not merely an enhancement; it is a strategic imperative for accurate and transparent T4 reporting. By seamlessly incorporating these calculations, our aim is to fortify the Payroll Canada System's ability to generate precise T4 Slips, thereby ensuring compliance and providing employees with a thorough and accurate representation of their EI and CPP-related financial information.

## **Analysis**

In our pursuit of enhancing the T4 Slip in the Payroll Canada System to include EI Insurable Earnings (Box 24) and CPP Pensionable Earnings (Box 26), a thorough analysis of the current system setup is imperative.

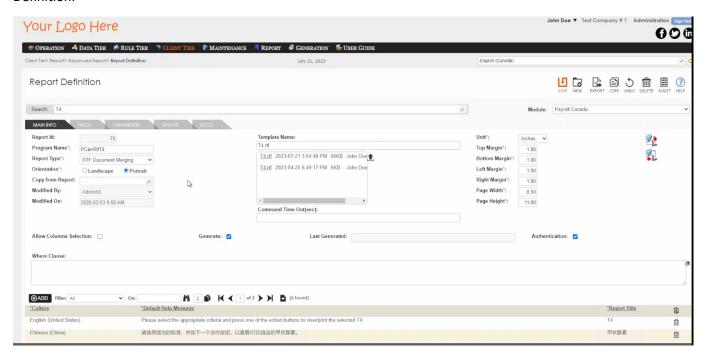
Here's a step-by-step breakdown of our exploration:

- 1. Review of T4 Report in the Payroll Canada System:
  - We initiated the analysis by navigating to the Payroll Canada System and locating the T4 report under the Documents Menu.
  - The T4 Slip for Employee 2, as of the Year Ending 2023, was generated for examination.

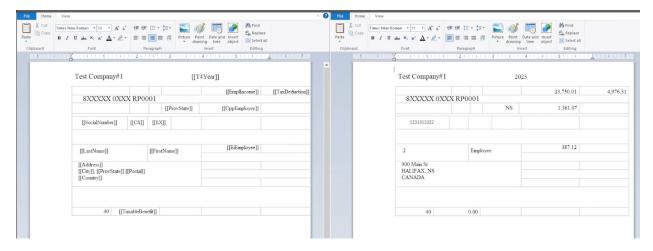


# 2. Report Setup Exploration:

The setup of the system was scrutinized in Administration-Client Tier\Report\Advanced Report\Report Definition.



The T4 report was identified as an RTF Document Merging type, utilizing a template with specific tags.



# 3. Identification of Relevant Tags:

Tags "CppEmployee" and "EiEmployee" were identified in the report template, presumed to correspond to Employee CPP contribution and Employee EI premium. This was done through the validation through SQL Profiler. SQL Profiler was set up to capture and analyze database calls during T4 report execution.

The stored procedure (\_GetPayRtfT4R) was examined, confirming the retrieval of Employee EI premium and Employee CPP contribution from the T4 table.

```
USE [RCPCan]
 GO
/****** Object: StoredProcedure [dbo].[_GetPayRtfT4R] Script Date: 2023-10-27 6:02:13 AM ******/
 SET ANSI_NULLS ON
 SET QUOTED_IDENTIFIER ON
□ALTER PROCEDURE [dbo].[_GetPayRtfT4R]
  ALTER PROCEDURE [aboj.[_vec._,....]
@wclause varchar(4000)
.@YearEnding datetime -- not null
.@CompanyId int -- not null
  @CompanyId int
/* WITH ENCRYPTION */
 DECLARE @sClause
                             varchar(8000)
                        varchar(8000)
       .@oClause
                         varchar(8000)
 SET NOCOUNT ON
| SELECT @ReportTimeTzInfo = CONVERT (VARCHAR, RCDesign.dbo.fConvertFromUTC(GETUTCDATE(),NULL,r.val)) + ' (UTC ' + CONVERT(varchar,r.val)) +')'
 FROM #ReportTemp r
                     TZUtcOffset'
|
∃IF NOT EXISTS (SELECT 1 FROM master.dbo.sysdatabases WHERE name = 'RCHrs')
 BEGIN RAISERROR('Please make sure database "RCHrs" exists and try again.',18,2) WITH SETERROR RETURN 1 END
 EXEC dbo.MkT4 @CompanyId, @YearEnding
,ReportTimeTzInfo =''' + @ReportTimeTzInfo + '
ECT @fClause = 'FROM RCCmon.dbo.Member a'
| T. , nepOrtInerIntO = V geoportInerIntO + V inNer JOIN RCCmon.dbo.Company g ON a.FirmId = b.FirmId AND DefAddr = ''Y''' + 'INNER JOIN RCCmon.dbo.State e ON b.StateId = e.StateId'
     INNER JOIN RCCmon.dbo.City t ON b.CityId = t.CityId'
INNER JOIN RCCmon.dbo.Country f ON e.CountryId = f.CountryId
    ' INNER JOIN dbo.T4 c ON a.MemberId = c.MemberId'
 *** + convert(varchar, YEAR(@YearEnding)) + ****
```

# 5. Exploration of T4 Table and its Population Process:

Upon analyzing the T4 table and its population process, we discovered a stored procedure called MkT4. This procedure is responsible for deleting old records with the same date and replacing them with new ones. It achieves this by utilizing data from the Payroll and PayrollDtl tables for the selected year, allowing the calculation of the yearly Employee El Premium and Employee CPP Contribution each time the T4 report is generated.

```
USE [RCPCan]
    GO /******* Object: StoredProcedure [dbo].[MkT4] Script Date: 2023-10-27 6:04:13 AM ******/
SET ANSI_NULLS ON
     SET QUOTED IDENTIFIER ON
     ALTER PROCEDURE [dbo].[MkT4]
      @CompanyId smalling
      ,@YearEnding datet
/* WITH ENCRYPTION */
      AS
DECLARE @T4Year i
,@YearFr d
,@YearTo d
,@PeriodEnding
                                                                                           datetime
    SET MCCOUNT ON
SELECT (#14'ear = datepart(yyyy,@YearEnding)
SELECT @PeriodEnding = MAX(PeriodEnding) FROM dbo.Payroll WHERE CompanyId = @CompanyId AND datepart(yyyy,PeriodEnding) = @T4Year
DELETE FROM dbo.T4 WHERE CompanyId = @CompanyId AND YearEnding = @YearEnding
                 IF (SELECT COUNT(distinct BenefitDate) FROM dbo.Benefit WHERE CompanyId = @CompanyId AND datepart(yyyy,BenefitDate) = @T4Year AND Posted = 'Y') < 12
                              RAISERROR('Some benefits has not been posted for calendar year %d, please try again later.',18,2,@T4Year) WITH SETERROR
                 FND
SELECT @YearFr = convert(datetime,convert(varchar,@TdYear) + '.01.01')

@RearTo = convert(datetime,convert(varchar,@TdYear) + '.12.31')

@RearTo = convert(datetime,convert(varchar,@TdYear) + '.12.31')

### SEMERT INTO dob. 14 (VerarEnding,CurrencyId, MemberId, ElExempt, DepExempt, TaxableBenefit, RegularPay, VacationPay, EmplIncome, CppEmployee, ElEmployee, CppEmployer, ElEmployer, TaxFed, TaxProv, TaxDeduction, CompanyId

### SEMERT INTO dob. 14 (VerarEnding, CurrencyId, a. MemberId, b. ElExempt, b. CppExempt, TaxableBenefit, RegularPay, VacationPay), SUM(a. VacationPay), SUM(a. TaxableBenefit, Benefit, Ben
                 FMON doc.PayroIDF1 a
IMMER DOIN dob.Salary b ON a.MemberId = b.MemberId
IMMER DOIN dob.Salary b ON a.MemberId = c.PayroIIId
IMMER DOIN dob.PayroII c ON a.PayroIIId = c.PayroIIId
LEFT OUTER DOIN (SELECT be_MemberId, TaxableBenefit = SUM(b2.BenefitDetAmt + b2.BenefitDetGst)
                               FROM dbo.Benefit b1
                               INNER JOIN dbo.BenefitDet b2 ON b1.BenefitId = b2.BenefitId
                 INNER JOIN dob.SenefitType b3 ON b2.senefitTypeI b b3. BenefitTypeId AND b3.Taxable = 'Y'

MFREE datepart(yyyy,b1.BenefitToate) = @T4Year GBOUP BY b2.MemberId | d.MemberId | d.MemberId |

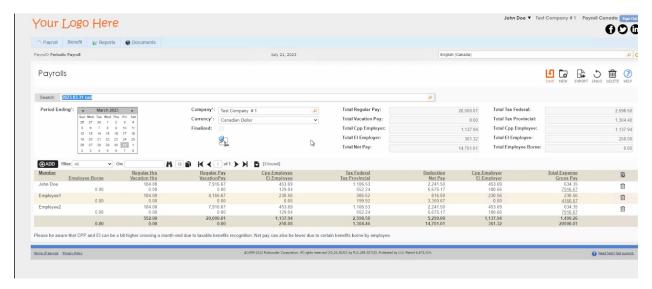
MFREE clarepart(yyyy,b1.BenefitToate) = @T4Year GBOUP BY b2.MemberId | d.MemberId | d.MemberId |

MFREE clarepart(yyyy,b1.BenefitToate) = @T4Year GBOUP BY b2.MemberId | d.MemberId |

MFREE clarepart(yyy,b1.BenefitToate) = @T4Year GBOUP BY c.GeriodEnding <= @YearTo AND b.ValidFrom <= @PeriodEnding AND b.ValidTo >= @PeriodEnding GBOUP BY c.CurrencyId,a.MemberId,b.EiExempt,b.CppExempt,TaxableBenefit
```

# 6. Payroll Tables and Web Rules:

The Payroll tables play a crucial role in the Payroll Screen, as confirmed through the Administration/Client Tier/Screen/Screen Definition.

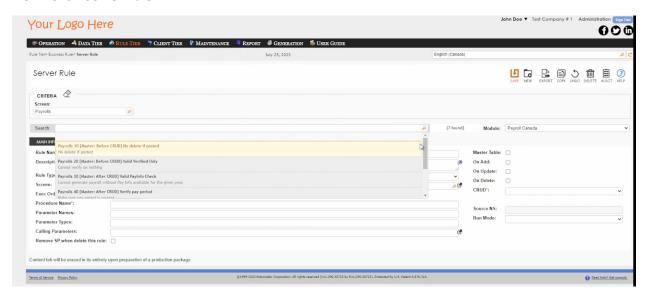


To understand the functionality and associated business rules, we can examine the webrules by opening the solution in Visual Studio and reviewing the PCanPayrollModule.ascx.cs file. Within this file, we find two web rules of interest.

The first is triggered by the New Button Click and calls the S.Proc "WrGetNextPayDay," which is essential for determining the next applicable pay period.

The second WebRule, cPostToAp\_Click, finalizes, and posts the payroll to A/P, serving as a secondary step after payroll creation which is not of interest to us at this time.

Additionally, for further insights, we can review the server rules in Administration System under the Rule Tier Menu - Server Rule.



These are the business rules associated with the payroll screen. We can get more information on reading the description of each rule. The first three rules are constraints doing various check to ensure proper payroll is generated.

- a. CrVerifyPayPeriod is a constraint that ensures the correct pay period is being processed by checking the last period completed in the PayInfo table.
- b. CrMaxCppEiExceed is a constraint that checks if the maximum CPP (Canada Pension Plan) is not exceeded.
- c. IrUpdPayrollDtl is a stored procedure that utilizes the PayInfo table to fetch the CPP Contribution Percentage and EI (Employment Insurance) Insurable Percentage for the company. It then creates detailed payroll information for the payroll record.
- d. IrPostToAp posts the payroll to the AP (Accounts Payable) module if the payroll is finalized. However, this is not a primary concern for us at the moment.

## 7. PayInfo Screen Exploration:

The PayInfo Screen, capturing yearly information, holds crucial data like EI Premium Rate and CPP Contribution Rate needed for our calculations.



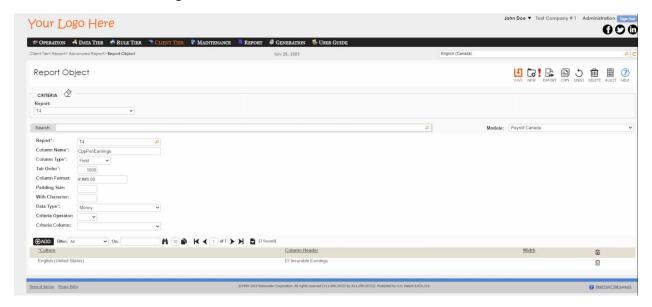
Having analyzed the existing setup, including database structure, report generation, and associated business rules, we are well-equipped to proceed with the strategic enhancement of integrating El Insurable Earnings and CPP Pensionable Earnings into the T4 report. This comprehensive analysis ensures a clear understanding of the system's intricacies and informs our implementation strategy.

### **Solution:**

Having gained a clear understanding of how the payroll is generated and how the T4 report utilizes this information to create the slip, we are now ready to proceed with our implementation. This involves including the two additional columns in the T4 report as per our requirements.

# Creation of New Report Objects:

- Navigate to the Client Tier > Report > Report Obj. section in the Payroll Canada System.
- Duplicate the existing 'EiEmployee' object to create two new report objects: 'EiInsEarnings' (EI Insurable Earnings) and 'CppPenEarnings' (CPP Pensionable Earnings).
- Modify the new objects by adjusting the Column Name and setting the Tab Order to 1700 and 1800, respectively.
- Update the Column Header in the detail section to display "El Insurable Earnings / CPP Pensionable Earnings."



# Modification of Stored Procedure ( GetPayRtfT4R):

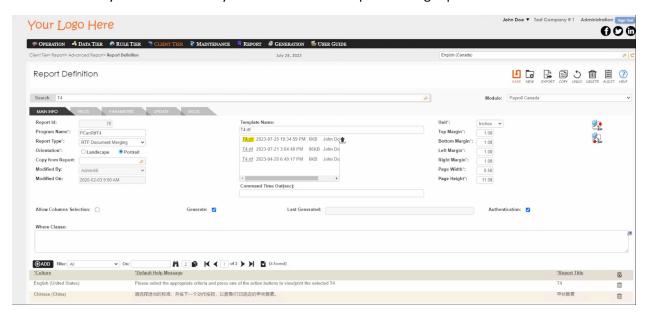
- Modify the stored procedure (\_GetPayRtfT4R) to integrate the newly added report objects using the provided formulas.
- Include the PayInfo table in the stored procedure, which houses crucial data such as EI Premium Rate and CPP contribution Rates, necessary for accurate calculations.

# 3. Template Update:

Update the template by including tags with the same Object Name ('EiInsEarnings' and 'CppPenEarnings').

				[[EmplIncome]]	[[TaxDeduction]
8XXXXXX 0XX	XX RP0	001			
			[[ProvState]]	[[CppEmployee]]	[[EiInsEarnings]
[[SocialNumber]]	[[CX]]	[[EX]	]]		[[CppPenEarnings
[[City]], [[ProvState]	] [[Postal]]				
[[Address]]					
[[Country]]	, [[]]	'			
40 [[T	axableBen	o6+11			

• Upload the modified template file to Administration-Client Tier\Report\Advanced Report\Report Definition. The system automatically utilizes the latest template during report execution.



After implementing the changes, we verify that the modifications produce the expected results and that the newly added columns ('El Insurable Earnings' and 'CPP Pensionable Earnings') accurately reflect the calculations based on El Premium Rate and CPP Contribution Rates.

By following these steps, we ensure the seamless integration of the new report objects, EI Insurable Earnings and CPP Pensionable Earnings, into the T4 report. This systematic approach, from object creation to testing, guarantees the reliability and functionality of the enhanced T4 Slip in the Payroll Canada System.

This concludes the addition of columns on the T4 Tax Slip in the Payroll Canada System.

Final run of the report containing the new fields.

Test Company#1		2023				
			23,750.01	4,976.31		
8XXXXX 0XXX	RP0001					
		NS	1,361.07	23,749.69		
1231312322				26,375,13		
2	Employee		387.12			
900 Main St HALIFAX, NS CANADA						
40	0.00					