Decision Maker in Process Chain

Applies to:

SCM 4.1 onwards

Summary

In the times when Business processes are getting complicated to such an extent that each day we have to run specific set of jobs, based on the date and the day, Decision makers come handy in implementing them, through process chains.

This article provides details of how to setup a Decision maker using various formulae in process chains.

Author: Tatavarthi Chandra Kanth

Company: Intelligroup Asia Pvt. Ltd

Created on: 08 August 2008

Author Bio

Chandra Kanth has more than 4 years of experience in SAP. His core competency is APO. He has worked on various types of projects viz. full cycle implementations, Global Rollouts, Upgrades, Application Support and Enhancements. He is currently working in Intelligroup Asia Pvt Ltd.

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Process chains in SCM

In this customer centric world, the business processes are becoming complex day by day. So to make them possible in SAP we have to adopt several methodologies. Process chains are those steps which makes scheduling of jobs with interdependencies and exceptions, easier.

SCM Component supported by Process Chain

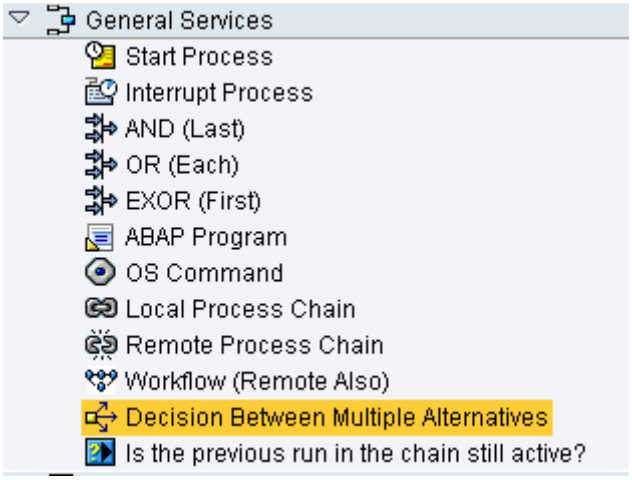
Following components of the SCM supports the Process Chain

- SCM Alert Monitor
- SCM Version Copy
- SCM-APO Demand Planning
- SCM-APO Supply Network Planning
- SCM-APO Capable-to-Match Planning
- SCM-APO Production Planning/Detailed scheduling

Decision makers in Process chains

Decision maker is a process type, in the context of process chains, as per the definition. We can implement a typical sequence of jobs, which are day specific or date specific.

It is the “If-else” logic which the decision maker will follow while making the decisions. So we have to follow that logic and design our formulae and connect the processes.



The Decision process type allows you to determine a set of conditions which form the basis for a decision, in accordance with the following logic:

“If condition A is filled, option X applies, if condition B is filled, option Y applies... otherwise, option Z applies“

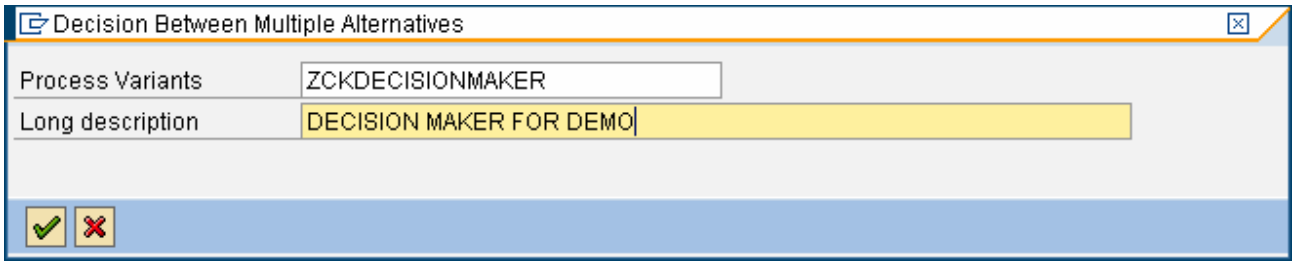
The conditions have a description and are formulated as logical expressions, using the formula builder.

Setting up of a Decision maker in Process Chain

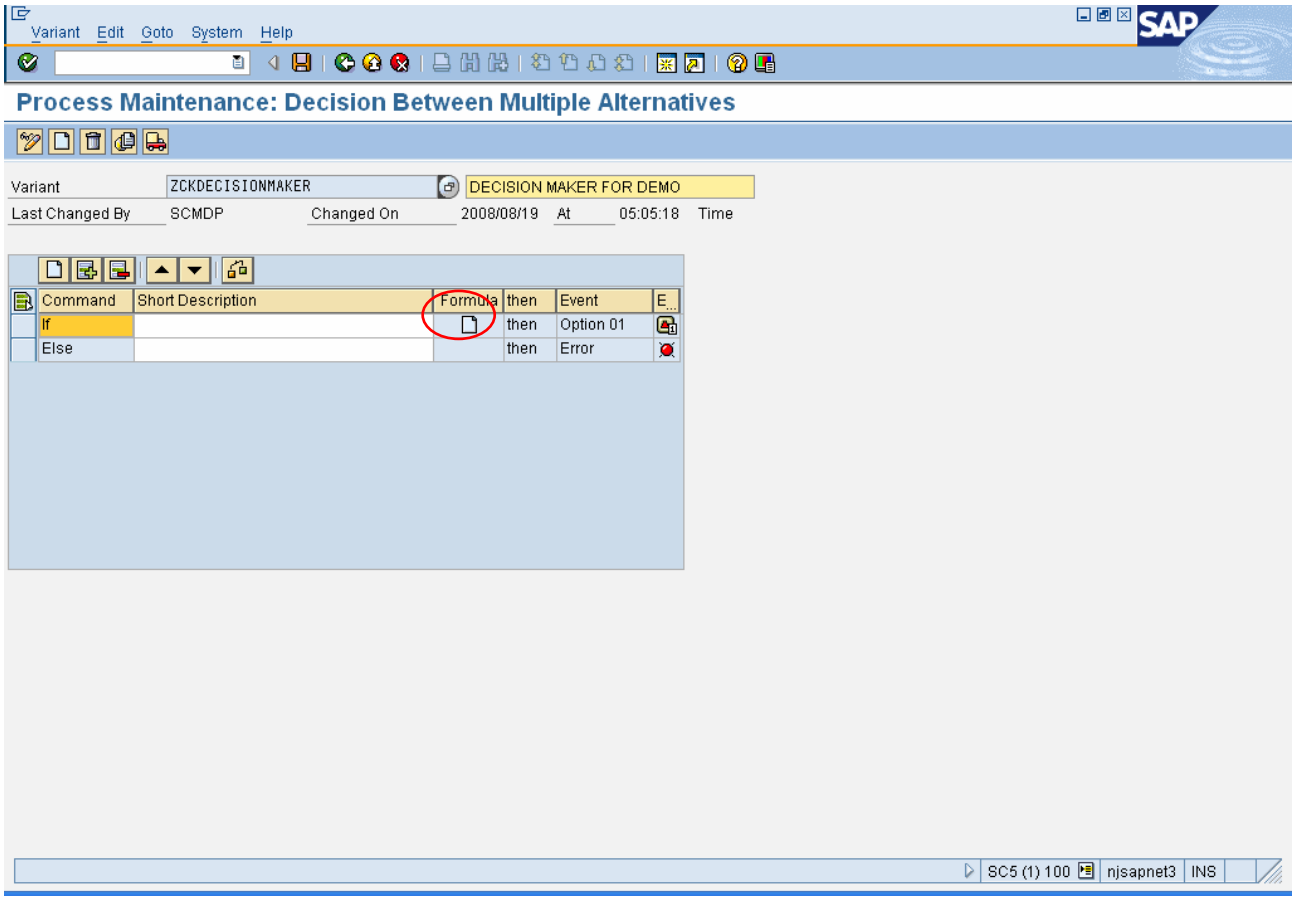
We have to drag and drop the “Decision between Multiple Alternatives” in to Process chain change window,

Here we will get a pop up where we have to define which decision maker we want to insert,

Here, we have to create a new Decision maker or use an existing one. When we click on the create  button we get another window where we have to define our new decision maker and its description.



After defining the decision maker we will have to define the logic for selection of the processes based upon the formulae that we build.



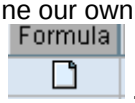
In this screen we follow the If-Else logic which get's executed in the following way:

When this particular Decision maker is triggered it will execute the formulae and check the result,

If the formula returns value as 'true', then the Option 01 will be executed or else it will go to the second step. It will follow the same logic for the second step and so on we can define further steps as we want.

Formulae builder

Now the most critical part of the whole Decision maker Exercise is to build the formulae accurately,

To define our own formulae we have to create a new formulae by clicking on the flowing create formulae button 

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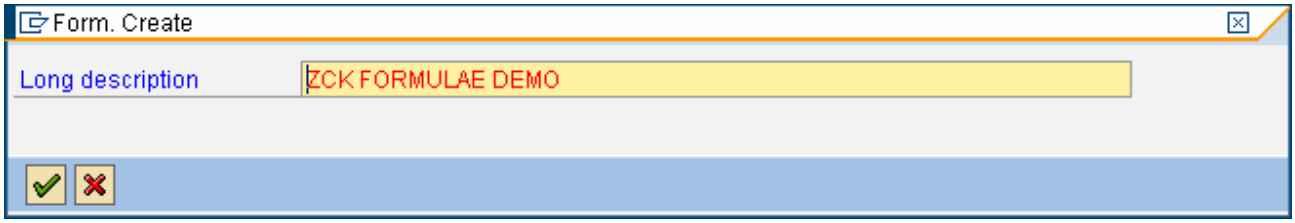
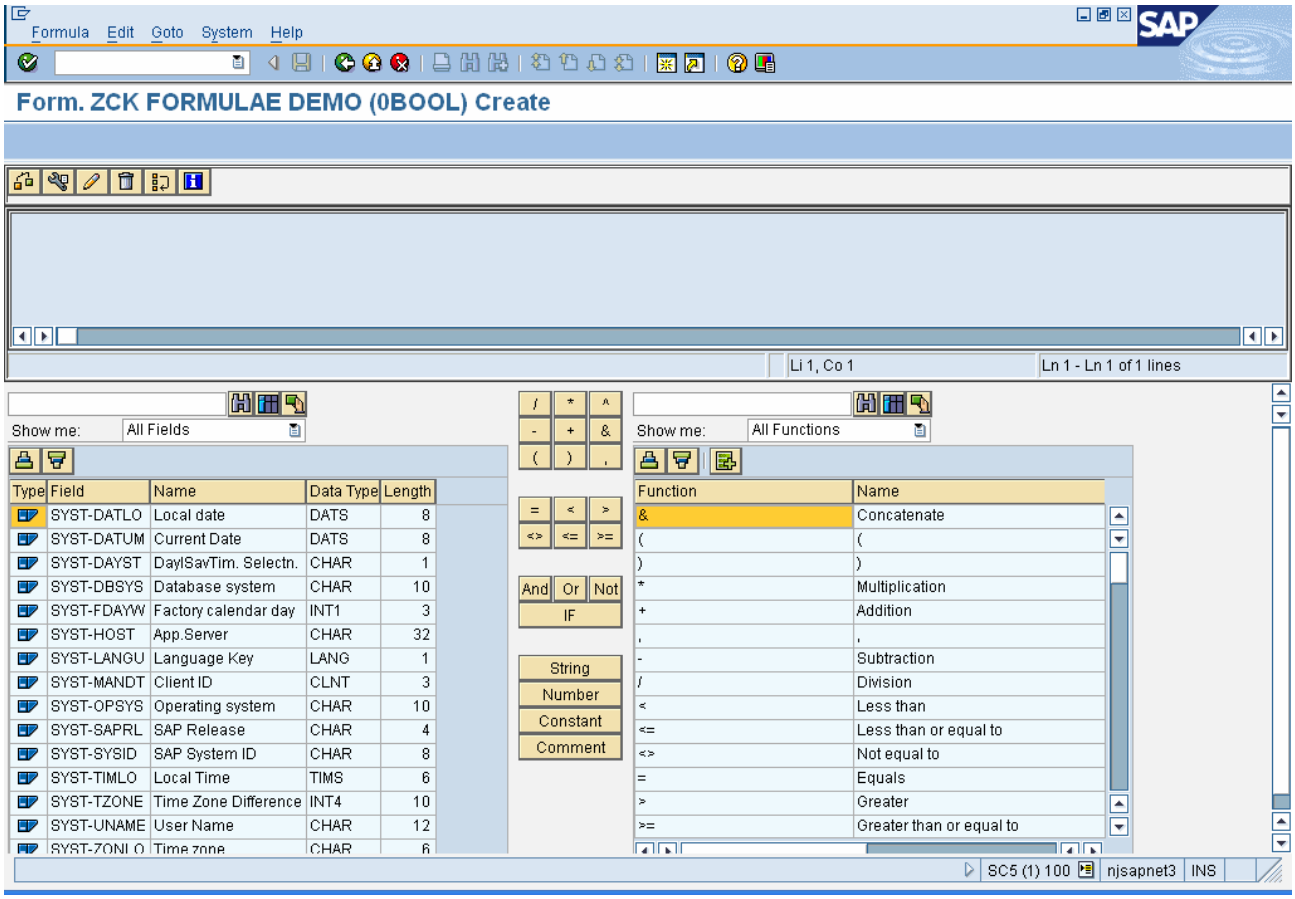
Enter the description of the formulae we want to build,



In the next step we will have to write the formulae in the formulae editor screen.



The formula is displayed in the upper half of the screen. In the center of the lower half, there are pushbuttons for frequently used operators and functions for manually entering strings, numbers, constants and comments. To the right of these are additional functions and operators, to the left are the possible fields (table fields, Info Objects, system fields, and so on).

Functions available:

The Various functions available here are in the following screen shot:

Function	Name
&	Concatenate
(	(
)	)
*	Multiplication
+	Addition
,	,
-	Subtraction
/	Division
<	Less than
<=	Less than or equal to
<>	Not equal to
=	Equals
>	Greater
>=	Greater than or equal to
ABORT_PACKAGE	Cancel Package
ABS	Amount
ADD_TO_DATE	Add Day to a Date
AND	And
ARCCOS	Arc Cosinus
ARCSIN	Arc Sinus
ARCTAN	Arc Tangent
CALMONTH_FISCPER	Calculate Fiscal Period from Calend
CONCATENATE	Concatenate
CONDENSE	Summarize
CONDENSE_NO_GAPS	Summarize without Spaces
COS	Cosine
COSH	Hyperbola Cosinus
C_CCMSBI_AGG	CCMS-BI: Store aggregates
C_CCMSBI_DSO	CCMS-BI: Store DSO
C_CCMSBI_DSRAGG	CCMS-BI: Store DSR aggregates
C_CCMSBI_DSRDSO	CCMS-BI: Store DSR DSO
C_CCMSBI_DSRPSADELETE	CCMS-BI: Delete DSR PSA
C_CCMSBI_PSADELETE	CCMS-BI: Delete WebAS PSA
DATECONV	Date Conversion
DATE_DIFF	Date Difference
DATE_FISCPER	Calculate Posting Period from Date
DATE_FISCPER3	Calculate Posting Period from Date
DATE_FISCYEAR	Calculate Fiscal Year from Date
DATE_HALFYEAR	Calculate Half Year from Date (YYY
DATE_MONTH	Calculate Month from Date (YYYYM
DATE_MONTH2	Calculate Month from Date (YYYYM
DATE_QUARTER	Calculate Quarter from Date (YYYY

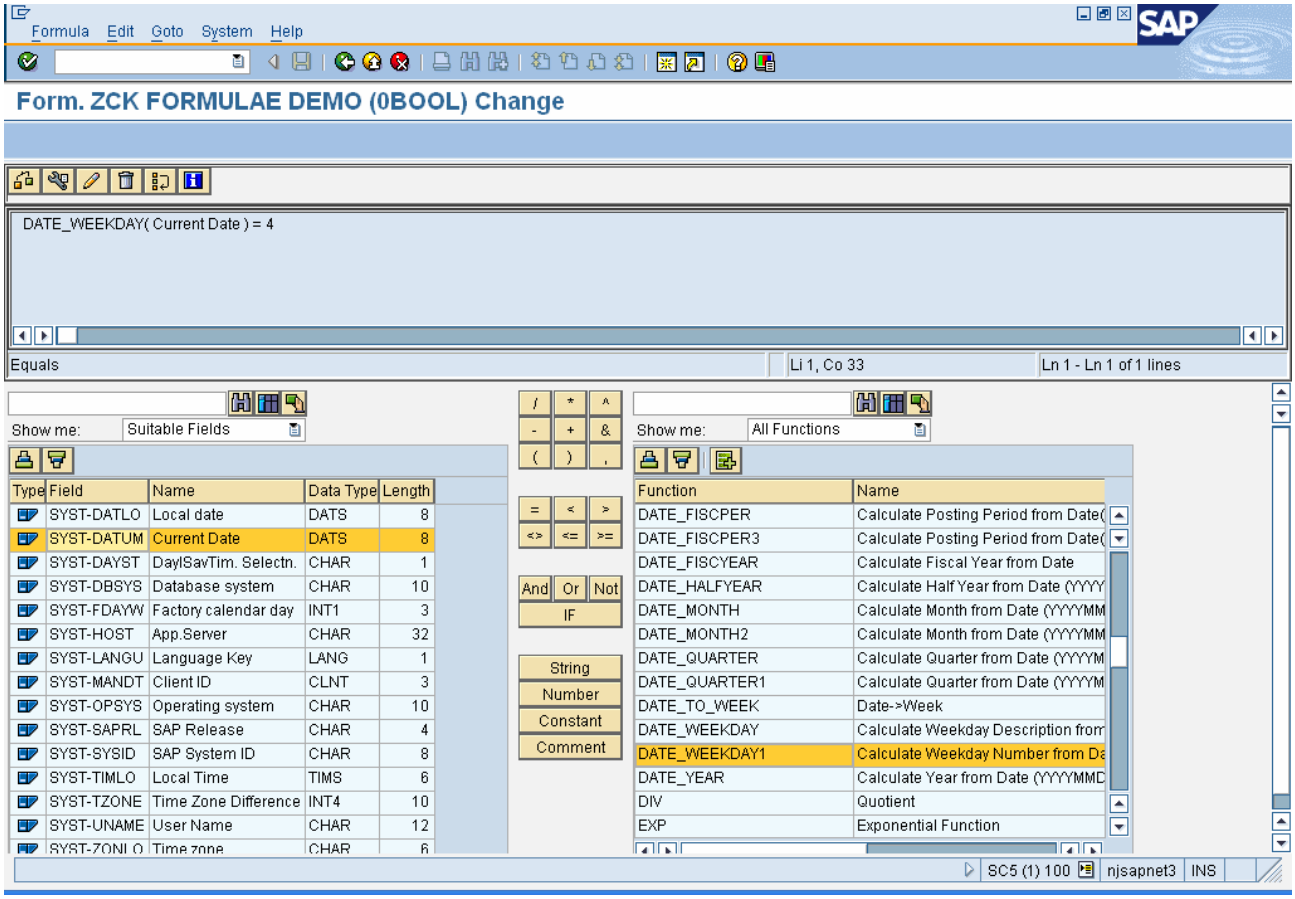
DATE_QUARTER1	Calculate Quarter from Date (YYYYM
DATE_TO_WEEK	Date->Week
DATE_WEEKDAY	Calculate Weekday Description fron
DATE_WEEKDAY1	Calculate Weekday Number from D
DATE_YEAR	Calculate Year from Date (YYYYMMD
DIV	Quotient
EXP	Exponential Function
FISCPER_CALMONTH	Calculate Calendar Month from Fisc
FISCPER_FISCYEAR	Calculate Fiscal Year from Booking
FRAC	Decimal Part
IF	Test
IS_INITIAL	Check for Initial Value
LAST_WORKINGDAY_MONTH	Calculate Last Work Day for Month
LAST_WORKINGDAY_YEAR	Calculate Last Work Day for Year
LEFT	First N Chars
LOG	Natural Logarithm
LOG10	Logarithm for Basis 10
L_TRIM	Delete Leading Spaces
MOD	Remaining
MONTH2_HALFYEAR	Calculate Half Year from Month (M o
MONTH2_QUARTER1	Calculate Quarter from Month (M or
MONTH_HALFYEAR	Calculate Half Year from Month (YY
MONTH_QUARTER	Calculate Quarter from Month (YYY
MONTH_QUARTER1	Calculate Quarter from Month (YYY
MONTH_YEAR	Calculate Year from Month (YYYYM
NEGATIVE	Reverse +/- Sign
NOT	Not
OR	Or

PREDECESSOR_PARAMETER	Runtime Parameters of the Direct P
PROCESS_PARAMETER	Runtime Parameters of a Process f
PROCESS_VALUE_EXISTS	Process of the Chain Has Paramete
QUARTER1_HALFYEAR	Calculate Half Year from Quarter (Q
QUARTER_HALFYEAR	Calculate Half Year from Quarter (Y
QUARTER_YEAR	Calculate Year from Quarter (YYYYQ
REPLACE_ALL	Replace All
REPLACE_FIRST	Replace First
RIGHT	Last N Chars
R_TRIM	Delete End Spaces
SHIFT_LEFT	Move Left
SHIFT_RIGHT	Move Right
SIGN	Sign
SIN	Sine
SINH	Hyperbola Sinus
SKIP_RECORD	Skip Record
SKIP_RECORD_AS_ERROR	Skip Record (with Error Message to
SQRT	Root
STR_LEN	Character String Length
SUBSTRING	Part of Character String
TAN	Tan
TANH	Hyperbola Tan
TOUPPER	Uppercase Letters
TRUNC	Integer Part
WEEK_TO_1ST_DAY	Week->Date
WORKINGDAY_MONTH	Date -> Work Day for Current Month
WORKINGDAY_YEAR	Date -> Work Day for Current Year
^	Raise to a power

Type	Field	Name	Data Type	Length
	SYST-ZONLO	Time zone	CHAR	6
	SYST-UNAME	User Name	CHAR	12
	SYST-TZONE	Time Zone Difference	INT4	10
	SYST-TIMLO	Local Time	TIMS	6
	SYST-SYSID	SAP System ID	CHAR	8
	SYST-SAPRL	SAP Release	CHAR	4
	SYST-OPSYS	Operating system	CHAR	10
	SYST-MANDT	Client ID	CLNT	3
	SYST-LANGU	Language Key	LANG	1
	SYST-HOST	App.Server	CHAR	32
	SYST-FDAYW	Factory calendar day	INT1	3
	SYST-DBSYS	Database system	CHAR	10
	SYST-DAYST	DaylSavTim. Selectn.	CHAR	1
	SYST-DATUM	Current Date	DATS	8
	SYST-DATLO	Local date	DATS	8

Formulae Definition

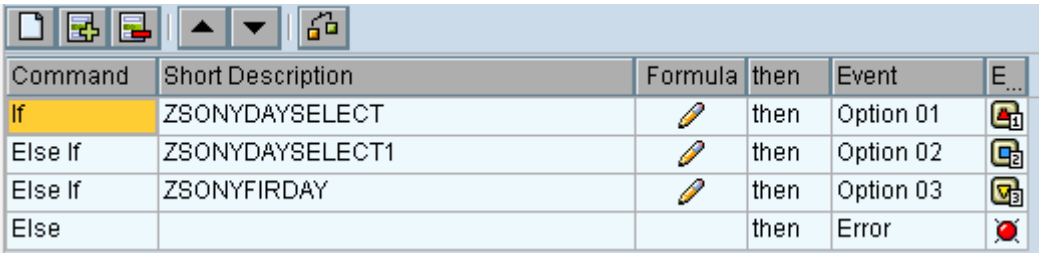
For our understanding I have taken an example with the formula function DATE_WEEKDAY1



The DATE_WEEKDAY1 formula function calculates the day of the week as a technical specification (1...7) from the date. For example, you can check the form DATE_WEEKDAY1 (date of the weekday) = '6' OR DATE_WEEKDAY1 (date of the weekday) = '7'. This allows you to change the way the chain runs in the weekend, in comparison to the other days of the week.

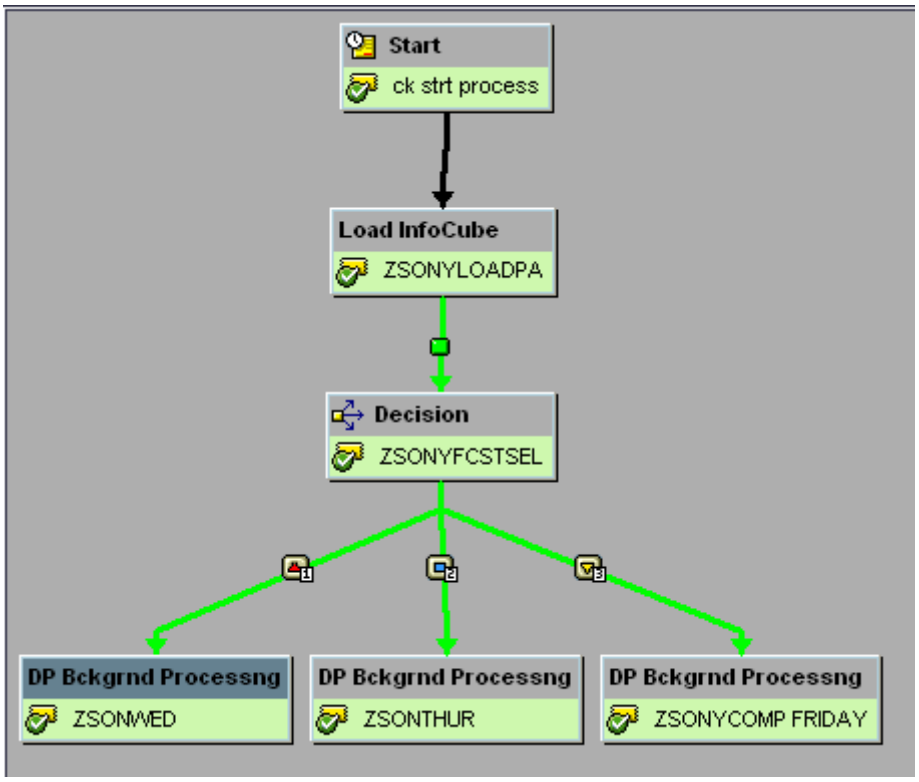
So in the next screen shot we can see that I have defined three such formulae which will work like this:

1. In the first step of formulae it checks which the day today is according to the system date, if its finds it Wednesday then option 1 is executed and comes out of the loop,
2. If the condition fails it is if its not Monday then it will come to second step where it will check whether system day is Thursday, If it's yes it will execute option 2
3. In the same way if its Friday it will execute option 3
4. If all the three conditions fail then the process chain comes out of the decision maker and the next process is executed.



Definition of the Options:

After defining the formulae's for various options we have to define which Job has to be executed with each option. For doing that we already define three jobs which have to be executed on those respective days and we have to connect to option in the following way:



From the above example we can see that I have defined three different jobs which have to be executed on three different days and at decision maker it will decide which job has to be executed.

Related Content

Please include at least three references to SDN documents or web pages.

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