

VisualAge Pacbase



Pacbench Quality Control

Version 3.5



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Note

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Chapter 1. Foreword

Pacbench Quality Control is available in VisualAge Pacbase through the:

- Character-mode user interface
- Administrator & Developer workbench

In this manual, you will find the entities as they are displayed in the character-mode interface and in AD workbench.

Chapter 2. Introduction

Pacbench Quality Control presentation

The Pacbench Quality Control function evaluates the quality of applications developed with VisualAge Pacbase.

Quality when applied to application writing may be expressed in terms of:

- Homogeneity, cohesion:
The diversity of developers should not be reflected by the same diversity in program writing.
As a result, one's creativity can focus on matters where it is needed, i.e. the functional problems at-hand.
- Reliability:
Indicators measure the most significant criteria influencing system reliability which is a key factor of an information system's quality. These criteria include the application's level of complexity, the extent of component reusability.
- Flexibility:
Multiple hardware platforms, operating systems and DBMS often coexist at many development sites. Measurements of system flexibility include degree of modularity and portability.
- Maintainability:
Because the analysis, correction and enhancement of existing applications account for a large percentage of DP resources, maintainability is becoming of increasing importance.

The need for application quality control

A rising number of Development Teams have felt the need for addressing the issue of application quality.

The Pacbench Quality Control function responds to this specific need. It includes a set of quality rules found in the Specifications Dictionary and formulated via a special Extension Meta Entity dedicated to Quality Control.

Also, Pacbench Quality Control operates in two modes:

- A standard mode where quality rules are norms supplied upon installation.
- A customized mode where quality rules are defined and described via User Entities of the above-mentioned Extension Meta Entity.

Note: Each mode corresponds to a specific purchase option of the Pacbench Quality Control function.

Statistical principle and Pacbench Quality Control scope

The main purpose of the Pacbench Quality Control function is not to detect every single error in each program but to evaluate whether the application as a whole is correctly written.

This is why exceptions to the rules are acceptable to the extent that there are only few of them and possibly justified.

However, the two scopes of quality control may apply:

1. The application scope for which checks are performed on the majority of the programs used by the application; so as to make sure that they include a minimum of errors, that they comply with the main quality criteria.
2. The program scope for which rapid checks are performed on the main criteria, and if necessary further validations on the other criteria.

When and by whom should Quality Control be carried out ?

Quality control should be a continuous process throughout the application development phase. Therefore, it can be carried out by all persons involved, i.e. developers and project managers.

Origins of Quality flaws

The nature of an error is often linked to causes originating in specific phases of the development process. Therefore, dedicated quality indicators are to be used as they relate to one (or several) of these development phases.

1. The design phase:
Quantitative indicators such as Size, Number of Segments or Data Structures in Input/Output, are used to evidence complexity of programs and compliance with development standards which are set during the Design phase.
2. The technical phase:
Indicators dedicated to Parameterized Macro-Structures show their relevancy; P.M.S.s being decided upon during the project technical study.
3. The programming phase:
Qualitative indicators are used to analyze the "style" of writing, the structuration of processing, the proper use of all VisualAge Pacbase capabilities.

Goals of Quality Control

The goals of the Pacbench Quality Control function are three-fold:

1. Supply a rating on the quality of one or more elements of an application written with VisualAge Pacbase.
2. Establish the probable causes of quality flaws: insufficient analysis before design, poor project technical study, confused programming.
3. Allow Pacbench Quality Control to be customized according to the site's and applications' goals and requirements.

The main criteria used in quality analysis are the following:

- Conformity with quality standards, those supplied upon installation or user-defined standards,
- Complexity,
- Documentation,
- Intrinsic quality of programming.

Entities

Three entity types are subject to Quality Control:

- Programs, including parameterized macro-structures,
- Screens, client and server components,
- Reports.

Chapter 3. Analysis - Rating - Results

Principle of Analysis & Technical Implementation

Principle of Quality Analysis

Analysis performed by the Pacbench Quality Control function is based on rules described through a 3-level structure:

A Program, Screen, or Report has a quality FACTOR (1) when the CRITERIA (2) which characterize that Factor are met. Analysis regarding each one of these criteria is performed by measuring the corresponding set of INDICATORS (3) which constitute the true metrics of Quality Control.

Example: The presence of Functional Documentation is one of the indicators related to the criterion of Readability. In turn, readability characterizes two quality Factors, Maintainability and Flexibility.

This example refers to one of the standard rules of Quality Control supplied upon installation, i.e. the Functional Documentation Indicator, coded I00058, defined and described in Chapter 'Standard rules & Implementation', Subchapter 'Indicators description'.

Technical implementation

Each Factor, Criterion, and Indicator is supported by a User Entity of the Extension Meta Entity dedicated to Quality Control.

This Meta Entity, coded '.QPAQC' and whose Type code is '5Q', is supplied in standard and cannot be modified.

You will find in the next pages the Definition and the Descriptions of User Entities of this Extension Meta Entity, as well as the documentation on their fields (these fields become input fields when using the Customized option of the Pacbench Quality Control function, see Chapter 'Creation of Customized Rules & Implementation').

Character-Mode VA Pac Interface

Definition TYPE : 5Q META-ENTITY : .QPAQC
 Entity code : 1 _____
 Entity label : 2 _____
 Type of rule : 3 _____
 Factor or criteria : 4 _____
 Level of analysis : 5 _____
 Entity type(s) : 6 _____
 Analysis mode : 7 _____
 Originating phase : 8 _____
 Identifiers report : 9 _____

NU	LE	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		Entity code (ALPHABETIC) IDENTIFIER DATA ELEMENT INVALID ABSENCE UPPERCASE
2	36		Entity label (ALPHABETIC) ENTITY LABEL INVALID ABSENCE
3	3		Type of rule (ALPHABETIC) INVALID ABSENCE UPPERCASE
			REQUIRED
			This User Entity of the .QPAQC Extension Meta Entity supports a:
		FAC	Factor
		CRI	Criterion
		MET	Indicator (or Metrical Unit).
4	20		Factor or criteria (ALPHABETIC) INVALID ABSENCE UPPERCASE
			If the User Entity is an Indicator, enter in this field at least one Criterion code.
			If the User Entity is a Criterion, enter in this field at least one Factor code.
			NOTE: Up to three Factors or Criteria may be entered in this field, they must be separated by a blank character.
5	1		Level of analysis (ALPHABETIC) UPPERCASE
			This field must be entered if the User Entity is an Indicator (it is irrelevant with Criteria and Factors).
		A	Overview
		B	Detailed
		C	In-depth
6	11		Entity type(s) (ALPHABETIC) UPPERCASE
			This field must be entered if the User Entity is an Indicator (it is irrelevant with Criteria and Factors).
			If several entity types are the target of this Indicator, they must be separated by a space or by a coma.

NU	LE	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		PGM	Program
		RPT	Report
		SCR	Screen
7	4		Analysis mode (ALPHABETIC) UPPERCASE
			This field must be entered if the User Entity is an Indicator (it is irrelevant with Criteria and Factors).
		AUTO	Automatic processing
		MANU	Manual processing
			Only Indicators assigned an Automatic Analysis Mode may be selected as input to a Quality Control request.
			However, you may assign a Manual Analysis Mode to an Indicator which cannot be automated. As a result, this "manual" rule is memorized in the VisualAge Pacbase Database.
8	9		Originating phase (ALPHABETIC) UPPERCASE
			This field must be entered if the User Entity is an Indicator (it is irrelevant with Criteria and Factors).
			An error is often linked to causes originating in specific phases of the development process. Therefore, a quality Indicator must be dedicated to one or two of the three development phases which have been identified as relevant.
		DESI	Design phase
		PROG	Programming phase
		TECH	Technical study phase
			NOTE: If the Indicator is assigned two originating phases, separate them by a blank character.
9	1		Identifiers report (ALPHABETIC) UPPERCASE
		Y or B	The identifiers are printed.
		N	The identifiers are not printed.

Lin	Op	Instruction	N	Parameters	Ana	C
1	2	3	4	5	6	7

NUM	LE	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	3		Line number (NUMERIC) IDENTIFIER DATA ELEMENT INVALID ABSENCE
2	2		Operator for searc (ALPHABETIC) UPPERCASE
			This field is used when more than one character string is to be checked by the Indicator.
		AN	and
		OR	or
			NOTE: If the instruction includes both AN and OR operators, they will not be processed sequentially; AN is prioritized.
			Example: WITH COLUMN COLUM1 EQUAL TO 'nnn' OR WITH COLUMN COLUM2 EQUAL TO 'mmm' AN WITH COLUMN COLUM3 EQUAL TO 'ppp'
			The Indicator will be verified if COLUM2 and COLUM3 have the mmm and ppp values, respectively OR if COLUM1 has the nnn value.
3	25		Instruction (ALPHABETIC) UPPERCASE
			REQUIRED
			SUM UP: Add lines of the type specified in PARAMETERS field.
			CHECK PRES: Checks the presence of the line type specified in the PARAMETERS field.

NU	LE	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			IF EXIST: Checks the presence of the line type specified in the PARAMETERS field and conditions another action (SUM UP and CHECK PRES).
			WITH COLUMN: Checks the contents of the field/column specified in the PARAMETERS field (used with EQUAL TO, LESS, HIGHER and CONTAINING).
			EQUAL TO: Checks that the character string entered in the PARAMETERS field is the character string found in the field/column previously specified.
			LESS: Checks that the character string entered in the PARAMETERS field is less than the character string found in the field/column previously specified.
			HIGHER: Checks that the character string entered in the PARAMETERS field is greater than the character string found in the field/column previously specified.
			CONTAINING: Checks that the character string entered in the PARAMETERS field is included in the field/column previously specified.
			FOR EACH: Specifies the identifier level on which is performed the Indicator analysis.
			NOTE: The instruction cannot be written on more than 99 lines. The total number of instruction lines cannot exceed 9,000.
4	1		Negation (ALPHABETIC) UPPERCASE
		N	This value allows to exclude the value entered in the next field.
			Example: SUM UP WSS WITH COLUMN COLUM1 CONTAINING N '\$'
			This instruction is translated as follows: "Add all those WSS-type lines which do not have a dollar sign in the COLUM1 field".
			Used with the LESS and HIGHER instructions, a negation means: 'less than or equal to' and 'greater than or equal to'.
			NOTE: FOR EACH and WITH COLUMN cannot be followed by a negation.
5	25		Parameters (ALPHABETIC) UPPERCASE
			REQUIRED
			This field's contents depends on the syntactic unit entered in the INSTRUCTION field.
			1. SUM UP, CHECK PRES, IF EXISTS:
			Specifies the type of line:

NU	LE	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
		DOC	General Documentation
		TXT	Assigned Text
		LBL	Report Layouts
		STR	Report Structures
		CAT	Report Categories
		DST	Call of Data Structures
		PMS	Call of Parameterized Macro-Structures
		BEG	Beginning Insertions
		WSS	Work Areas
		PRC	Procedural Code
		DEL	Call of Data Elements
		SEG	Call of Segments
		DEF	Definition
		COB	Pure COBOL Source Code
		SRC	Source Code (Reverse Engineering output)
		CMP	Dialogue Complement
			NOTE: If several line types are the target of the Indicator, they must be separated by a coma.
			2. EQUAL TO, LESS, HIGHER, CONTAINING:
			The field contains a character string which must be delimited by a simple quote ('), unless you have specified another delimiter value in the CHARACTER STRING DELIMITER field.
			3. WITH COLUMN:
			This field's value identifies the field to be processed. Fields used by the Program, Screen, and Report entity types are identified by their PAF SQL codes. This is why they are called COLUMNS. See the "Pacbase Access Facility : Tables" documentation supplied as a complement to the present manual for the complete list of PAF SQL codes.
			"IPMSOV": Special column used with the following line types only: BEG, WSS and SPE for the Screen and Program entities, and COB and SRC for the Program entity. It is used to find out macro-structure lines over- ridden by lines of their calling occurrence.
		BLANK	Parameterized Macro-Structure line,
		'*/'	Line overridden by the calling occurrence.

NU	LE	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			"IPMSCA": Column called in the PGMPMS and SCRPMMS tables. It is used to indicate which lines call Macro- Structures (see the I00005 indicator).
		'P'	Call of Macro-structures,
		BLANK	Comments.
			4. FOR EACH:
			The value entered after a FOR EACH syntactic unit specifies the Identifier level upon which the Indicator will perform its analysis:
		1	- All occurrence-related lines,
		2	- Depending on the type of line processed: . WSS: Paragraph level, . PRC: Function level.
		3	- If processed type of line is PRC, analysis is performed at the Sub-Function level.
			NOTE: For Indicators processing Report occurrences, the Identifier Level must be set to "1".
6	3		Anal. of called li (ALPHABETIC) UPPERCASE
		YES	Lines from called Parameterized Macro-Structures or called Screens will be analyzed by the Indicator.
		NO	Default value: Lines from called Parameterized Macro-Structures or called Screens will NOT be analyzed by the Indicator.
7	1		Character string d (ALPHABETIC) UPPERCASE
			This field is used to set another value for the Character String Delimiter. By default, the system recognizes the simple quote (') value.

Rating

5Q _____

02

Lin Thresh Diagnosis

Gra Ty

1	2	3	4	5

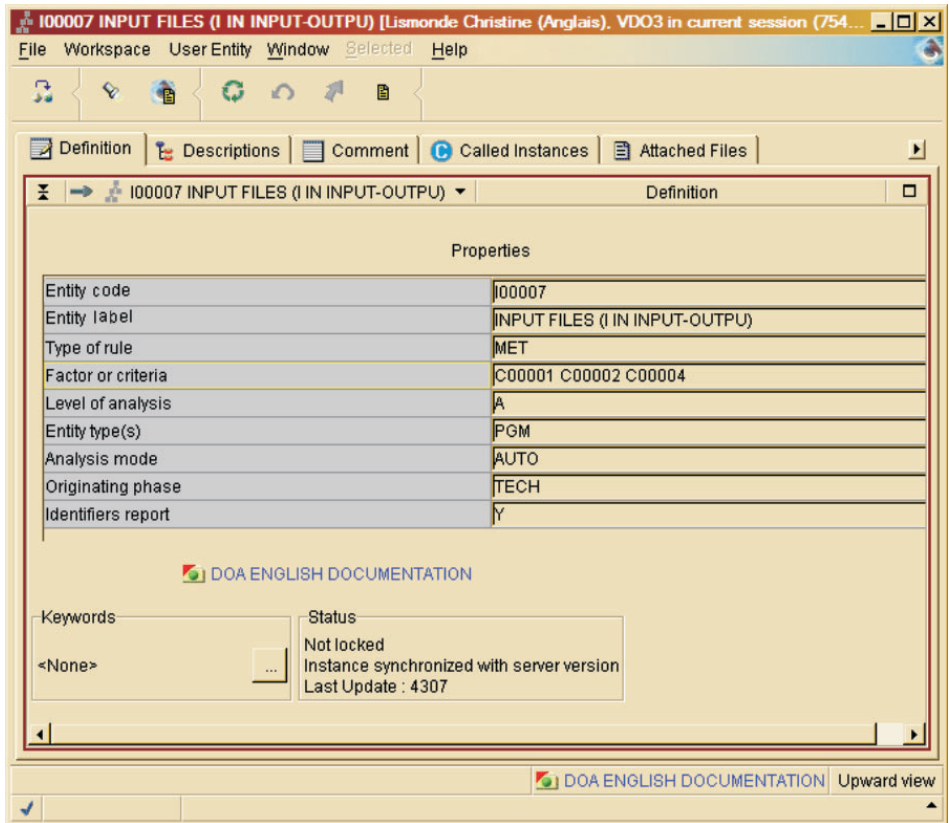
NU	LE	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	3		Line number (NUMERIC) IDENTIFIER DATA ELEMENT INVALID ABSENCE
2	6		Threshold (NUMERIC) UPPERCASE REQUIRED
			Up to four rating thresholds can be defined, each threshold must be associated with a Rating TYPE. This field is entered with a 6-digit value which operates differently whether a Llimit Rating Type is specified or not.
			NOTE: All threshold values are inclusive. They must be entered in ascending order.
			1. NO Limit is specified: The value entered specifies the upper limit until which the corresponding rating type (and associated grade and diagnosis) is assigned.
			EXAMPLE:
			000180 ST : Up to 180 lines ... --> Standard
			000500 BS : Up to 500 lines ... --> Below Standard
			999999 NS : More than 500 ... --> Non Standard
			2. A Limit is specified:
			- ST, BS, NS lines: The value entered specifies the maximum number of Identifier levels (>"1") - where the error defined by the LLimit threshold) is found - for which the corresponding rating type (and associated grade and diagnosis) is assigned.

NU	LE	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			- LI line: The value entered specifies the acceptable number of times the Indicator can detect the error on the given identifier level.
			EXAMPLE: See Indicator supplied in standard, coded I00037 (CH: Y5QI00037D2).
			. When using the CHECK PRES syntactic unit, thresholds must be set to "0" and "1".
			. When using the SUM UP syntactic unit, the "999999" maximum threshold value is required.
3	40		Diagnosis (ALPHABETIC) UPPERCASE
			You may enter here a short comment which will be printed in the Quality Control output report.
4	3		Grade (NUMERIC) UPPERCASE
			REQUIRED
			The grade may range from 000 to 100.
5	2		Type of rating (ALPHABETIC) UPPERCASE
			REQUIRED
		ST	Standard
		BS	Below Standard
		NS	Non Standard
		LI	Required if the Indicator is assigned an Identifier level greater than "1".

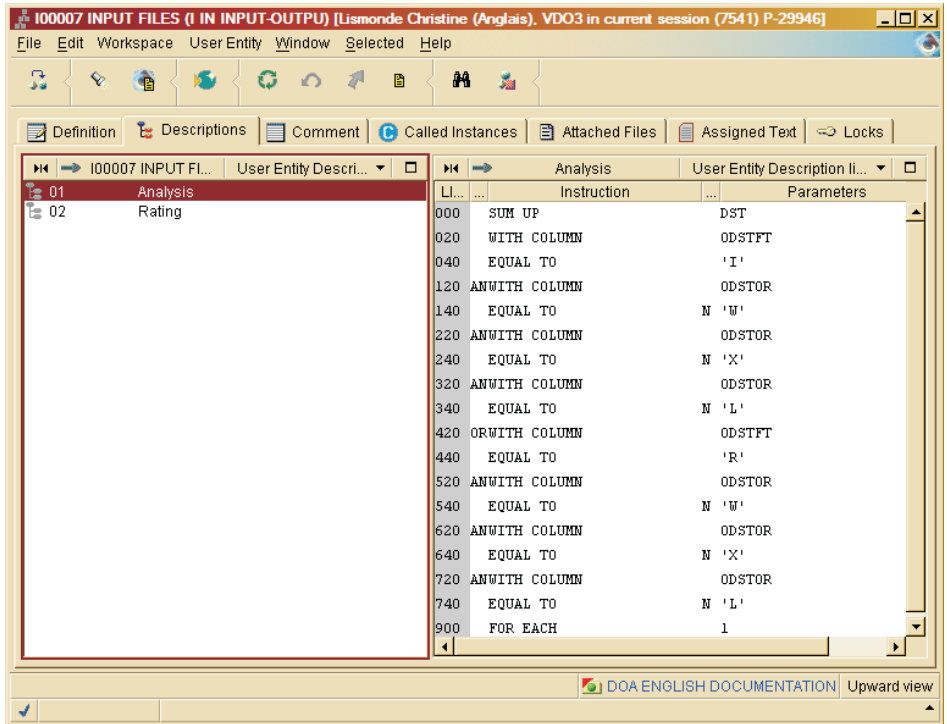
AD workbench Graphical Interface

With AD workbench, you can access the User Entities of the Extension Meta Entity dedicated to Quality control from a specific PQC tab. To add this tab, you must use the Extensibility utility of Pacbanch Quality Control. For more information, refer to chapter 'Creation of Customized Rules & Implementation', sub-chapter 'Creation of Customized Rules', section 'Implementation in AD workbench'.

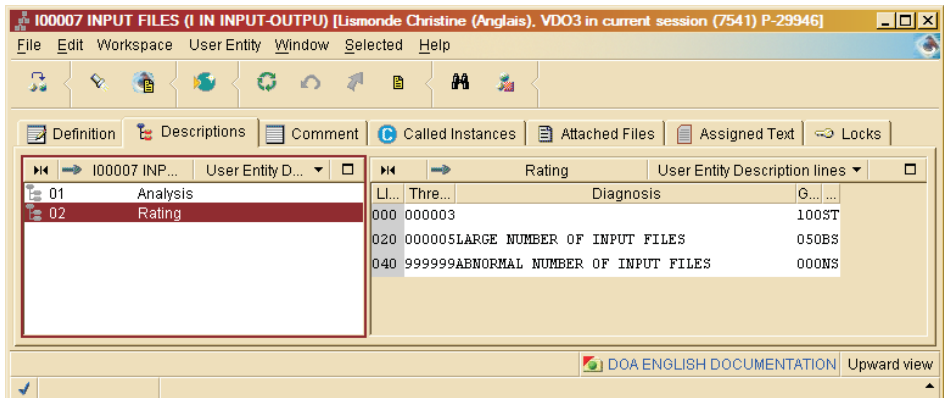
'Definition' Tab of a PQC Rule



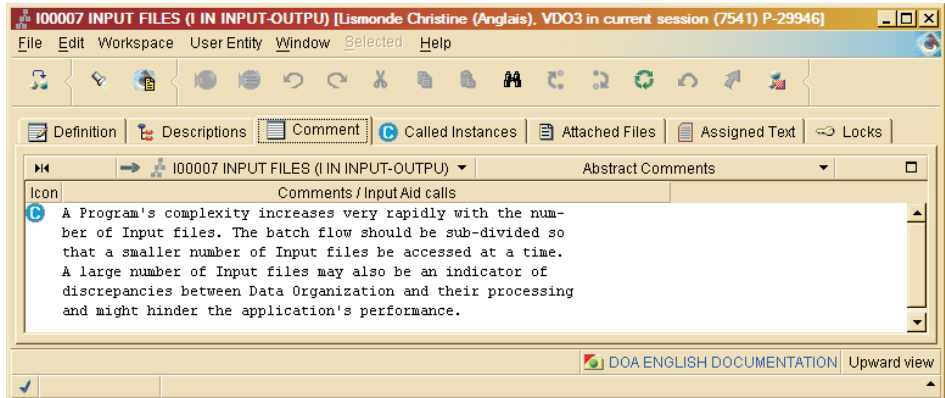
'Descriptions/Analysis' Tab of a PQC Rule



'Descriptions/Rating' Tab of a PQC Rule



'Comment' Tab of a PQC Rule



Operating Mode & Rating Principle

Operating mode

Whether implementing standard or user-defined rules, a Quality Control request may be qualified at four different levels, all four of them being specified in the request's User Input.

For complete details on User Input, see 'Quality control execution (PQCA)' sub-chapter in 'Standard Rules & Implementation' chapter and 'Extraction of Customized quality rules (PQCE)' sub-chapter in 'Creation of Customized rules & Implementation' chapter.

1. Selection of rules relevant to the request.
2. Use of the ANALYSIS LEVEL parameter which modify the request's scope.
3. Modification of Indicator thresholds.
4. Selection of a type of output report (documented in next subchapter).

1. Selection of rules

Note:

In the case of customized rules, if no rule is selected, the first 1000 indicators (in the alphanumeric order) will be used by default.

Each Indicator is linked to at least one Criterion, each Criterion is related to at least one Factor.

As a result, rule selections may be made in three different ways:

- Selection of Factors:

All the Criteria related to the selected Factors are selected. Implicitly, all the Indicators linked to these Criteria are used by the Quality Control request.

- Selection of Criteria:

All the Indicators linked to the selected Criteria are used by the Quality Control request.

- Direct selection of Indicators. No more than 1000 Indicators can be processed, whether they are selected explicitly or implicitly. Rules supplied in standard involve 65 Indicators.

In other words, all rules -- either standard-supplied or user-defined -- are not necessarily used by a Quality Control request. It is up to the user to determine which rules are to be taken into account.

Note: When using standard-supplied rules, all Indicators apply if no rule is selected.

2. Level of analysis

Each Indicator (standard or user-defined) is assigned a Level of Analysis:

"A" = overview

"B" = detailed

"C" = in-depth

Example:

The standard Indicator of Functional Documentation is assigned the "A" Level of Analysis, meaning that it is used by Overview-type analyses.

In addition to the selections described in Paragraph No.1, this parameter restricts or enlarges the scope of the request:

- If the "A" Level of Analysis is chosen, Indicators assigned the "A" value only will be processed.
- If the "B" Level of Analysis is chosen, Indicators assigned the "A" and "B" values will be processed.
- If the "C" Level of Analysis is chosen, all Indicators will be processed.

Note: The "C" Level of Analysis is the default option.

3. Modification of indicator thresholds

Values of thresholds may be modified for a given execution of a Quality Control request.

Rating principle

1. Each Indicator produces a diagnosis and a grade. A synthesis is subsequently made on the following levels (average of grades produced by selected Indicators):
 - Criteria linked to the selected Indicators,
 - Factors related to the selected Criteria,
 - Overall synthesis.
2. Each Indicator is assigned one or several origins of quality flaw (See 'Introduction' Chapter).

A grade is therefore computed for each one of the three originating phases (Design, Technical, Programming phases) by averaging grades given by their associated Indicators. Each one of these three grades is an overall rating since the Indicator/Criterion/Factor levels are irrelevant here.

Weighting parameter:

A weighting parameter, assigned to each Level of Analysis, is used in the calculation of grade averages. By default, they are all set to "1". They can be modified in the User Input.

Example:

If the OVERVIEW Level of Analysis is considered as more important than the DETAILED or IN-DEPTH levels, its associated weighting parameter should be greater.

Summary of elements necessary to the calculation

```

+-----+
! Level of indicator           ! A ! B ! C !
!-----!
! Weighing parameter (default=1) ! Pa ! Pb ! Pc !
!-----!
! Number of standard indicators ! na1 ! nb1 ! nc1 !
! Number of below standard indicators ! na2 ! nb2 ! nc2 !
! Number of non-standard indicators ! na3 ! nb3 ! nc3 !
!-----!
! Number of indicators per level ! na ! nb ! nc !
! ni=ni1+ni2+ni3              !   !   !   !
!-----!
! Average grade for standard indicators !   !   !   !
! (mi1)                          ! ma1 ! mb1 ! mc1 !
! Average grade for below standard indic.!   !   !   !
! (mi2)                          ! ma2 ! mb2 ! mc2 !
! Average grade for non-standard indicat.!   !   !   !
! (mi3)                          ! ma3 ! mb3 ! mc3 !
!-----!
! Grade for each Ni level         ! Na ! Nb ! Nc !
!                                 !   !   !   !

```

```

!      mi1*ni1 + mi2*ni2 + mi3*ni3      !      !      !      !
! Ni = -----                          !      !      !      !
!                               ni        !      !      !      !
!-----!
! Comprehensive grade                    !
!-----!
!                               Na*Pa + Nb*Pb + Nc*Pc      !
!                               -----                    !
!                               Pa + Pb + Pc                !
! Note: In cases where the number of indicators for one   !
! ---- level is null, the weighing parameter is null for  !
! this level in the calculations.                          !
!-----!

```

Results

Quality control results: output reports

The results of a Quality Control request may be formatted in two ways:

1. A global report including:
 - for the set of analyzed entities as a whole:
 - Overall grade,
 - Grades for each one of the three originating phases.
 - for each analyzed entity:
 - Overall grade.

This type of report allows to zero in on flawed occurrences.

2. A detailed report including:
 - Grade produced by each indicator,
 - Grade for each criterion / factor / origin,
 - Overall grade,

These results are given for each entity type, and then for each occurrence.

Quality control results: PACQMJ file

Results by entity type.

```

SEGMENT DEFINITION          C700
NAME.....: SHARED PART RESULTS PER TYPE
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES..:
VALUE OF RECORD TYPE ELEM.: RECTYP
CODE OF ACTION CODE ELEM.:
PRESENCE.....: CR:      M0:      DE:
                  M4:      M5:      M6:
SESSION NUMBER.....: 5073

```

NUMLEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1	ENTITY TYPE
		This field is used to identify the entity to which these lines are attached:
	'O'	On-line Screen
	'P'	Program
		The user may keyboard this field in order to copy lines attached to a Screen into a Program and vice-versa.
2	3	LIBRARY CODE
	lll	This code identifies a Library. The Library code is assigned at the time a Library is created and cannot be modified.
		Special characters are not allowed in a Library code but any alphabetic or numeric character can be used.
	***	This value is forbidden to define a library. It must be used only to select all the Libraries when viewing the Database.
		SESSION
3	4	SESSION NUMBER
		NUMERIC FIELD
		The session number represents the time scale of the Database.
		Its value is 0001 when the Database is created.
		It is incremented:
		. daily, when the first user logs on (batch or on-line for consultation, update, or program generation).
		. by certain utility procedures. See the individual utility descriptions.
4	3	SUB-VERSION NUMBER
5	1	VERSION OF THE SESSION
		There are two possible values:
	'blank'	Initial version of a frozen session (consultation only). This version will be in the same state as it was when it was frozen.
	T	Test version This is used to consult or update the test version of a previously frozen session.
		Note: Changes made to the test version of a particular frozen session do not affect any other session.
6	1	QUALITY CONTROL LEVEL

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
7	30		LABEL OF ENTITY TYPE
8	3	NUMER.	NUMBER OF ENTITIES CHECKED
9	2		TYPE OF RECORD

SEGMENT DEFINITION C703
NAME.....: RESULTS PER QUALITY INDICATOR
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES..
VALUE OF RECORD TYPE ELEM.: '03'
CODE OF ACTION CODE ELEM..
PRESENCE.....: CR: M0: DE:
M4: M5: M6:
SESSION NUMBER.....: 5073

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Keyword structure
1	6		CODE OF THE RULE
2	36		NAME OF THE RULE
3	1		QUALITY CONTROL LEVEL
4	3	NUMER.	NUMBER OF STANDARD ENTITIES
5	3	NUMER.	NUMBER OF BELOW STANDARD ENTITIES
6	3	NUMER.	NUMBER OF NON-STANDARD ENTITIES
7	5	NUMER.	RATE OF NON-STANDARD ENTITIES
8	3	NUMER.	GRADE FOR AN INDICATOR

SEGMENT DEFINITION C706
NAME.....: RESULTS PER QUALITY CRITERION
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES..
VALUE OF RECORD TYPE ELEM.: '06'
CODE OF ACTION CODE ELEM..
PRESENCE.....: CR: M0: DE:
M4: M5: M6:
SESSION NUMBER.....: 5073

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Keyword structure
1	6		CODE OF THE CRITERION
2	36		NAME OF THE RULE

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
3	3	NUMER.	GRADE FOR EACH CRITERION

SEGMENT DEFINITION C708
NAME.....: RESULTS BY QUALITY FACTOR
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES...:
VALUE OF RECORD TYPE ELEM.: '08'
CODE OF ACTION CODE ELEM...:
PRESENCE.....: CR: M0: DE:
M4: M5: M6:
SESSION NUMBER.....: 5073

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Keyword structure
1	6		FACTOR CODE
2	36		NAME OF THE RULE
3	3	NUMER.	GRADE FOR EACH FACTOR

SEGMENT DEFINITION C709
NAME.....: GENERAL DIAGNOSIS
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES...:
VALUE OF RECORD TYPE ELEM.: '09'
CODE OF ACTION CODE ELEM...:
PRESENCE.....: CR: M0: DE:
M4: M5: M6:
SESSION NUMBER.....: 5073

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	3	NUMER.	GRADE FOR EACH QUALITY CONTROL
2	3	NUMER.	GRADE FOR EACH REALIZATION
3	3	NUMER.	GRADE FOR EACH TECHNICAL REPORT
4	3	NUMER.	GENERAL GRADE

SEGMENT DEFINITION C710
NAME.....: TECHNICAL RECORD
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES...:
VALUE OF RECORD TYPE ELEM.: '10'
CODE OF ACTION CODE ELEM...:
PRESENCE.....: CR: M0: DE:
M4: M5: M6:
SESSION NUMBER.....: 5073

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	1		LANGUAGE INDICATOR
		F	French.
		E	English.
2	1		GENERAL STATUS ASKED

Quality control results: PACQMK file

Results by entity.

SEGMENT DEFINITION C800
NAME.....: SHARED PART RESULTS PER ENTITY
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES..
VALUE OF RECORD TYPE ELEM.: RECTYP
CODE OF ACTION CODE ELEM..
PRESENCE.....: CR: M0: DE:
M4: M5: M6:
SESSION NUMBER.....: 5073

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		ENTITY CODE
			This field is displayed with the label 'ENTITY' on screen format options '1' and '2' of the GP screen.
			When required, the user enters the entity code which corresponds to the COMMAND FOR PRINT REQUEST.
			'PCM' COMMAND: In this field, you enter the code of the selected Methodology:
		M	Merise
		D	YSM
		A	SSADM
		O	OMT
		F	IFW
2	2		TYPE OF RECORD
3	3		LIBRARY CODE
		lll	This code identifies a Library. The Library code is assigned at the time a Library is created and cannot be modified.
			Special characters are not allowed in a Library code but any alphabetic or numeric character can be used.

NUMLEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
	***	This value is forbidden to define a library. It must be used only to select all the Libraries when viewing the Database.
		SESSION
4	4	SESSION NUMBER
		NUMERIC FIELD
		The session number represents the time scale of the Database.
		Its value is 0001 when the Database is created.
		It is incremented:
		. daily, when the first user logs on (batch or on-line for consultation, update, or program generation).
		. by certain utility procedures. See the individual utility descriptions.
5	3	SUB-VERSION NUMBER
6	1	VERSION OF THE SESSION
		There are two possible values:
	'blank'	Initial version of a frozen session (consultation only). This version will be in the same state as it was when it was frozen.
	T	Test version This is used to consult or update the test version of a previously frozen session.
		Note: Changes made to the test version of a particular frozen session do not affect any other session.
7	1	QUALITY CONTROL LEVEL
8	30	LABEL OF ENTITY TYPE
9	36	LABEL OF CHECKED ENTITY

```

SEGMENT DEFINITION          C803
NAME.....: RESULTS PER QUALITY INDICATOR
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES...:
VALUE OF RECORD TYPE ELEM.: '03'
CODE OF ACTION CODE ELEM...:
PRESENCE.....: CR:          MO:          DE:
                  M4:          M5:          M6:
SESSION NUMBER.....: 5073

```

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		CODE OF THE RULE
2	36		NAME OF THE RULE
3	1		QUALITY CONTROL LEVEL
4	6	NUMER.	STANDARD THRESHOLD
5	6	NUMER.	BELOW STANDARD THRESHOLD
6	6	NUMER.	NON-STANDARD THRESHOLD
7	6	NUMER.	COUNTER
8	3	NUMER.	GRADE
9	40		NOTATION DIAGNOSIS
			The label recorded in the DIAGNOSIS field is the one which will be at the top of the Quality Control report for each Quality Rule processed. This allows for making the diagnosis more precise, depending on the rules taken into account.
			Examples of diagnosis: ===== Normal size of program Too many lines in the sub-function *** call the sub-programs via MSP *** call the required on-line skeleton

SEGMENT DEFINITION C806
NAME.....: RESULTS PER QUALITY CRITERION
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES..
VALUE OF RECORD TYPE ELEM.: '06'
CODE OF ACTION CODE ELEM.:
PRESENCE.....: CR: M0: DE:
M4: M5: M6:
SESSION NUMBER.....: 5073

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
			Keyword structure
1	6		CODE OF THE CRITERION
2	36		NAME OF THE RULE
3	3	NUMER.	GRADE FOR EACH CRITERION

SEGMENT DEFINITION C808
NAME.....: RESULTS PER QUALITY FACTOR
OCCUR OF SEGMENT IN TABLE:
EST NUMBER OF INSTANCES..
VALUE OF RECORD TYPE ELEM.: '08'

CODE OF ACTION CODE ELEM.:
 PRESENCE.....: CR: M0: DE:
 M4: M5: M6:
 SESSION NUMBER.....: 5073

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	6		FACTOR CODE
2	36		NAME OF THE RULE
3	3	NUMER.	GRADE FOR EACH FACTOR

SEGMENT DEFINITION C809
 NAME.....: GENERAL DIAGNOSIS
 OCCUR OF SEGMENT IN TABLE:
 EST NUMBER OF INSTANCES...:
 VALUE OF RECORD TYPE ELEM.: '09'
 CODE OF ACTION CODE ELEM.:
 PRESENCE.....: CR: M0: DE:
 M4: M5: M6:
 SESSION NUMBER.....: 5073

NUM	LEN	CLASS VALUE	DESCRIPTION OF FIELDS AND FILLING MODE
1	3	NUMER.	GRADE FOR EACH QUALITY CONTROL
2	3	NUMER.	GRADE FOR EACH REALIZATION
3	3	NUMER.	GRADE FOR EACH TECHNICAL REPORT
4	3	NUMER.	GENERAL GRADE

Chapter 4. Standard rules & Implementation

List of factors, criteria and indicators

Factors

CODE	NAME
F00001	MAINTAINABILITY
F00007	FLEXIBILITY
F00008	RELIABILITY
F00012	PORTABILITY

Criteria

CODE	NAME
C00001	SIZE
C00002	COMPLEXITY
C00003	READABILITY
C00004	MODULARITY
C00005	STANDARDIZATION

Indicators

CODE	NAME
I00001	PGM/SCREEN GROSS SIZE - PMS INCLUDE
I00002	PROGRAM/SCREEN NET SIZE-PMS EXCLUDE
I00003	NUMBER OF PHYSICAL ACCESSES
I00004	NUMBER OF VARIABLE FIELDS IN SCREEN
I00005	NUMBER OF CALLED P.M.S.
I00006	NUMBER OF INPUT/OUTPUT FILES
I00007	INPUT FILES (I IN INPUT-OUTPUT)
I00008	OUTPUT FILES (O IN INPUT-OUTPUT)
I00009	GROSS AMOUNT OF SPECIFIC CODE

CODE	NAME
I00010	NET AMOUNT OF SPECIFIC CODE
I00011	GROSS AMOUNT OF WORKING-STORAGE
I00012	NET AMOUNT OF WORKING-STORAGE
I00013	TECHNICAL GROSS AMOUNT OF WORKING
I00014	TECHNICAL NET AMOUNT OF WORKING
I00015	GROSS AMOUNT OF PROCEDURAL CODE
I00016	NET AMOUNT OF PROCEDURAL CODE
I00017	PROCEDURAL CODE TECHN. GROSS AMOUNT
I00018	PROCEDURAL CODE TECHNICAL NET AMOUN
I00019	NUMBER OF LITERALS IN SCREEN
I00020	PARAGRAPH NET SIZE / WORKING-STORAG
I00021	NET SIZE OF SUB-FUNCTIONS
I00022	NUMBER OF SUB-FUNCTIONS PER FUNCTIO
I00023	NET NUMBER OF CONDITIONS
I00024	NET NUMBER OF CONDITIONS / FUNCTION
I00025	NET NUMBER OF CONDITIONS PER SUB-FC
I00026	NET NUMBER OF 'Gxx' OPERATORS
I00027	SEGMENT ACCESS OPERATORS NET NUMBER
I00028	NET NUMBER OF EXPLICIT PERFORMs
I00029	NET NUMBER OF EXPLICIT PERFORMs/FCT
I00030	NET NBR OF EXPLICIT PERFORMs/SUB-FC
I00031	NET NUMBER OF IMPLICIT PERFORMS
I00032	NET NUMBER OF CALLs
I00033	NET NUMBER OF CALLs PER FUNCTION
I00034	NET NUMBER OF CALLs PER SUB-FUNCTIO
I00035	NET NUMBER / MANUAL SCREEN TRANSFER

CODE	NAME
I00036	NET NUMBER OF FILES IN WORKING
I00037	NET NUMBER OF PARAGRAPHS IN WORKING
I00038	NET NUMBER OF PURE COBOL OPERATORS
I00039	PURE COBOL OPERATORS / SUB-FUNCTION
I00040	NET NUMBER OF PIC CLAUSES IN WORKIN
I00041	NET NUMBER OF 'GDI' OPERATORS
I00042	SCREEN/PROGRAM BEGINNING INSERTIONS
I00043	P.M.S. LINES OVERRIDDEN IN WORKING
I00044	P.M.S. OVERRIDDEN IN PROCEDURAL COD
I00045	P.M.S. OVERRIDDEN/BEGINNING INSERT.
I00046	EXISTENCE OF SUB-FUNCTION TITLES
I00047	CONDITIONS IN REPORT
I00049	PRESENCE OF 'SUP' OPERATOR(S)
I00050	USE OF THE "GO TO" COBOL INSTRUCTIO
I00051	USE OF THE "ALTER" COBOL INSTRUCTIO
I00052	USE OF "VARYING" COBOL INSTRUCTION
I00053	USE OF "DEPENDING" COBOL INSTRUCTIO
I00054	USE OF "CORRESPONDING" COBOL INSTRU
I00055	USE OF THE "UNTIL" COBOL INSTRUCTIO
I00056	USE OF "CONSOLE" COBOL INSTRUCTION
I00057	USE OF "DISPLAY" COBOL INSTRUCTION
I00058	FUNCTIONAL DOCUMENTATION
I00059	TECHNICAL DOCUMENTATION
I00060	SEGMENT SELECTION 00 RENAME IN -C
I00062	PHYSICAL ACCESSES WITHOUT P.M.S.s
I00063	NET NUMBER OF LINKS
I00064	NET NUMBER OF LINKS PER FUNCTION

CODE	NAME
I00065	NET NUMBER OF LINKS PER SUB-FUNCTIO

Factors description

Definition
 Entity code : F00001
 Entity label : MAINTAINABILITY
 Type of rule : FAC
 Factor or criteria : F00001
 Level of analysis :
 Entity type(s) :
 Analysis mode : AUTO
 Originating phase :
 Identifiers report :
 SESSION NUMBER.....: 4307

Definition
Entity code : F00007
Entity label : FLEXIBILITY
Type of rule : FAC
Factor or criteria : F00007
Level of analysis :
Entity type(s) :
Analysis mode : AUTO
Originating phase :
Identifiers report :
SESSION NUMBER.....: 4307

Definition
Entity code : F00008
Entity label : RELIABILITY
Type of rule : FAC
Factor or criteria : F00008
Level of analysis :
Entity type(s) :
Analysis mode : AUTO
Originating phase :
Identifiers report :
SESSION NUMBER.....: 4307

Definition
Entity code : F00012
Entity label : PORTABILITY
Type of rule : FAC
Factor or criteria : F00012
Level of analysis :
Entity type(s) :
Analysis mode : AUTO
Originating phase :
Identifiers report :
SESSION NUMBER.....: 4307

Criteria description

Definition
Entity code : C00001
Entity label : SIZE
Type of rule : CRI
Factor or criteria : F00001 F00008
Level of analysis :
Entity type(s) :
Analysis mode : AUTO
Originating phase :
Identifiers report :
SESSION NUMBER.....: 4307

Definition
Entity code : C00002
Entity label : COMPLEXITY
Type of rule : CRI
Factor or criteria : F00001 F00008
Level of analysis :
Entity type(s) :
Analysis mode : AUTO
Originating phase :
Identifiers report :
SESSION NUMBER.....: 4307

Definition
Entity code : C00003
Entity label : READABILITY
Type of rule : CRI
Factor or criteria : F00001 F00007
Level of analysis :
Entity type(s) :
Analysis mode : AUTO
Originating phase :
Identifiers report :
SESSION NUMBER.....: 4307

Definition
Entity code : C00004
Entity label : MODULARITY
Type of rule : CRI
Factor or criteria : F00001 F00007
Level of analysis :
Entity type(s) :
Analysis mode : AUTO
Originating phase :
Identifiers report :
SESSION NUMBER.....: 4307


```

Definition
Entity code      : C00005
Entity label     : STANDARDIZATION
Type of rule     : CRI
Factor or criteria : F00001 F00012
Level of analysis :
Entity type(s)   :
Analysis mode    : AUTO
Originating phase :
Identifiers report :
SESSION NUMBER.....: 4307

```

Indicators description

```

Definition
Entity code      : I00001
Entity label     : PGM/SCREEN GROSS SIZE - PMS INCLUDED
Type of rule     : MET
Factor or criteria : C00001
Level of analysis : B
Entity type(s)   : PGM SCR
Analysis mode    : AUTO
Originating phase : DESI TECH
Identifiers report : N
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM UP		N DOC, TXT	YES
020	FOR EACH		1	
Lin	Thresh	Diagnosis		Gra Ty
000	000500			100 ST
020	002000	LARGE GROSS SIZE		050 BS
040	999999	ABNORMAL GROSS SIZE		000 NS

The gross size of a Program or Screen affects its reliability, and maintainability.

Definition
 Entity code : I00002
 Entity label : PROGRAM/SCREEN NET SIZE-PMS EXCLUDED
 Type of rule : MET
 Factor or criteria : C00001
 Level of analysis : A
 Entity type(s) : PGM SCR
 Analysis mode : AUTO
 Originating phase : DESI TECH
 Identifiers report : N
 SESSION NUMBER.....: 4307

Lin	Op	Instruction	N Parameters	Ana C
000		SUM UP	N DOC,TXT	NO
020		FOR EACH	1	

Lin	Thresh	Diagnosis	Gra	Ty
000	000300		100	ST
020	001000	LARGE NET SIZE	050	BS
040	999999	ABNORMAL NET SIZE	000	NS

The net size of a Program or Screen affects its reliability and maintainability.

```

Definition
Entity code       : I00003
Entity label      : NUMBER OF PHYSICAL ACCESSES
Type of rule      : MET
Factor or criteria : C00001 C00002
Level of analysis : A
Entity type(s)    : SCR
Analysis mode     : AUTO
Originating phase : DESI TECH
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		SEG		
020		WITH COLUMN		CLIN2		
040		EQUAL TO		'00'		
060		FOR EACH		1		
Lin Thresh Diagnosis						Gra Ty
000	000010					100 ST
020	000020	LARGE NUMBER OF PHYSICAL ACCESSES				050 BS
040	999999	ABNORMAL NUMBER OF PHYSICAL ACCESSES				000 NS

The number of physical accesses reflects a Screen's complexity and may indicate discrepancies between Data Organization and their processing.
It may also hinder the application's performance.

```

Definition
Entity code      : I00004
Entity label     : NUMBER OF VARIABLE FIELDS IN SCREEN
Type of rule     : MET
Factor or criteria : C00001 C00002
Level of analysis : A
Entity type(s)   : SCR
Analysis mode    : AUTO
Originating phase : DESI
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		DEL		YES
020		WITH COLUMN		ODELNA		
040		EQUAL TO		'V'		
120	OR	WITH COLUMN		ODELNA		
140		EQUAL TO		'F'		
220	OR	WITH COLUMN		ODELNA		
240		EQUAL TO		'P'		
900		FOR EACH		1		
Lin Thresh Diagnosis					Gra	Ty
000		000015			100	ST
020		000030		LARGE NUMBER OF VARIABLE FIELDS	050	BS
040		999999		ABNORMAL NUMBER OF VARIABLE FIELDS	000	NS

The number of variable fields in a Screen indicates the complexity of validations to be performed and the Screen readability to the end-users.

NOTE: The number of variable fields must be relativized since the analyzed Screen may call Screen(s) which include variable fields.

```

Definition
Entity code      : I00005
Entity label    : NUMBER OF CALLED P.M.S.
Type of rule    : MET
Factor or criteria : C00002 C00003
Level of analysis : A
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : TECH
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
100	SUM	UP	PMS		
120	WITH	COLUMN	IPMSCA		
140	EQUAL	TO	'P'		
160	AN	WITH COLUMN	OLINC		
180	EQUAL	TO	' '		
200	FOR	EACH	1		
Lin	Thresh	Diagnosis		Gra	Ty
100	000010			100	ST
120	000020	LARGE NUMBER OF P.M.S CALLED		050	BS
140	999999	ABNORMAL NUMBER OF P.M.S. CALLED		000	NS

Too many Parameterized Macro-Structure calls may originate in some programming difficulties.

```

Definition
Entity code      : I00006
Entity label     : NUMBER OF INPUT/OUTPUT FILES
Type of rule    : MET
Factor or criteria : C00001 C00002
Level of analysis : B
Entity type(s)  : PGM
Analysis mode   : AUTO
Originating phase : TECH
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000		SUM UP	DST		
020		WITH COLUMN	CLINCS		
040		EQUAL TO	' '		
060	AN	WITH COLUMN	ODSTOR		
080		EQUAL TO	N 'W'		
160	AN	WITH COLUMN	ODSTOR		
180		EQUAL TO	N 'L'		
260	AN	WITH COLUMN	ODSTOR		
280		EQUAL TO	N 'X'		
900		FOR EACH	1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000010		100	ST
020	000020	LARGE NUMBER OF INPUT/OUTPUT FILES	050	BS
040	999999	ABNORMAL NUMBER OF INPUT/OUTPUT FILES	000	NS

The number of Input/Output files reflects a Program's complexity and may indicate discrepancies between Data Organization and their processing. It may also hinder the application's performance.

```

Definition
Entity code       : I00007
Entity label     : INPUT FILES (I IN INPUT-OUTPU)
Type of rule    : MET
Factor or criteria : C00001 C00002 C00004
Level of analysis : A
Entity type(s)  : PGM
Analysis mode   : AUTO
Originating phase : TECH
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		DST		
020		WITH COLUMN		ODSTFT		
040		EQUAL TO		'I'		
120	AN	WITH COLUMN		ODSTOR		
140		EQUAL TO	N	'W'		
220	AN	WITH COLUMN		ODSTOR		
240		EQUAL TO	N	'X'		
320	AN	WITH COLUMN		ODSTOR		
340		EQUAL TO	N	'L'		
420	OR	WITH COLUMN		ODSTFT		
440		EQUAL TO		'R'		
520	AN	WITH COLUMN		ODSTOR		
540		EQUAL TO	N	'W'		
620	AN	WITH COLUMN		ODSTOR		
640		EQUAL TO	N	'X'		
720	AN	WITH COLUMN		ODSTOR		
740		EQUAL TO	N	'L'		
900		FOR EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000003		100	ST
020	000005	LARGE NUMBER OF INPUT FILES	050	BS
040	999999	ABNORMAL NUMBER OF INPUT FILES	000	NS

A Program's complexity increases very rapidly with the number of Input files. The batch flow should be sub-divided so that a smaller number of Input files be accessed at a time. A large number of Input files may also be an indicator of discrepancies between Data Organization and their processing and might hinder the application's performance.

```

Definition
Entity code      : I00008
Entity label     : OUTPUT FILES (0 IN INPUT-OUTPUT)
Type of rule     : MET
Factor or criteria : C00001
Level of analysis : C
Entity type(s)   : PGM
Analysis mode    : AUTO
Originating phase : TECH
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		DST		
020		WITH COLUMN		ODSTFT		
040		EQUAL TO		'O'		
120	AN	WITH COLUMN		ODSTOR		
140		EQUAL TO	N	'W'		
220	AN	WITH COLUMN		ODSTOR		
240		EQUAL TO	N	'X'		
320	AN	WITH COLUMN		ODSTOR		
340		EQUAL TO	N	'L'		
420	OR	WITH COLUMN		ODSTFT		
440		EQUAL TO		'R'		
520	AN	WITH COLUMN		ODSTOR		
540		EQUAL TO	N	'W'		
620	AN	WITH COLUMN		ODSTOR		
640		EQUAL TO	N	'X'		
720	AN	WITH COLUMN		ODSTOR		
740		EQUAL TO	N	'L'		
900		FOR EACH		1		
Lin	Thresh	Diagnosis		Gra	Ty	
000	000005			100	ST	
020	000010	LARGE NUMBER OF OUTPUT FILES		050	BS	
040	999999	ABNORMAL NUMBER OF OUTPUT FILES		000	NS	

The number of Output files does not really interfere with a Program's complexity which depends more on the processing which will lead to the writing of these Output files. However, many Ouput files may be an indicator of discrepancies between Data Organization and their processing, and might hinder the application's performance.


```

Definition
Entity code      : I00009
Entity label    : GROSS AMOUNT OF SPECIFIC CODE
Type of rule    : MET
Factor or criteria : C00001
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : DESI TECH
Identifiers report : N
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	PRC,WSS,BEG	YES
020	FOR	EACH	1	
Lin	Thresh	Diagnosis		Gra Ty
000	000450			100 ST
020	000900	LARGE GROSS AMOUNT OF SPECIFIC CODE		050 BS
040	999999	ABNORMAL GROSS AMOUNT OF SPECIFIC CODE		000 NS

The number of lines entered in three VA Pac screens; Beginning Insertions, Work Areas, and Procedural Code, is an indication as to what amount of work was dedicated to programming and consequently what workload will be required for maintenance.

These lines are the main subject of Quality Control.

REMINDER: The "gross" qualifier indicates that called Parameterized Macro-Structures are also taken into account.

```

Definition
Entity code       : I00010
Entity label      : NET AMOUNT OF SPECIFIC CODE
Type of rule      : MET
Factor or criteria : C00001
Level of analysis : A
Entity type(s)    : PGM SCR
Analysis mode     : AUTO
Originating phase : DESI TECH
Identifiers report : N
SESSION NUMBER....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		PRC,WSS,BEG		NO
020		FOR EACH	1			

Lin	Thresh	Diagnosis	Gra	Ty
000	000200		100	ST
020	000400	LARGE NET AMOUNT OF SPECIFIC CODE	050	BS
040	999999	ABNORMAL NET AMOUNT OF SPECIFIC CODE	000	NS

The number of lines entered in three VA Pac screens; Beginning Insertions, Work Areas, and Procedural Code, is an indication as to what amount of work was dedicated to programming and consequently what workload will be required for maintenance.

These lines are the main subject of Quality Control. The net amount of specific code is also an indicator of reliability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code       : I00011
Entity label      : GROSS AMOUNT OF WORKING-STORAGE
Type of rule      : MET
Factor or criteria : C00001
Level of analysis : B
Entity type(s)    : PGM SCR
Analysis mode     : AUTO
Originating phase : PROG
Identifiers report : N
SESSION NUMBER....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	WSS,BEG	YES
020	FOR	EACH	1	
Lin	Thresh	Diagnosis		Gra Ty
000	000050			100 ST
020	000100	LARGE GROSS AMOUNT OF WORKING-STORAGE		050 BS
040	999999	ABNORMAL GROSS AMOUNT OF WORKING-STORAGE		000 NS

The number of lines entered in two VA Pac screens; Beginning Insertions and Work Areas, is an indication as to their correct usage. It may also allow to detect too much flagging in the Program or Screen.

REMINDER: The "gross" qualifier indicates that called Parameterized Macro-Structures are also taken into account.

```

Definition
Entity code      : I00012
Entity label     : NET AMOUNT OF WORKING-STORAGE
Type of rule     : MET
Factor or criteria : C00001
Level of analysis : A
Entity type(s)   : PGM SCR
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : N
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	WSS,BEG	NO
020	FOR	EACH	1	

Lin	Thresh	Diagnosis	Gra Ty
000	000030		100 ST
020	000060	LARGE NET AMOUNT OF WORKING-STORAGE	050 BS
040	999999	ABNORMAL NET AMOUNT OF WORKING-STORAGE	000 NS

The number of lines entered in two VA Pac screens; Beginning Insertions and Work Areas, is an indication as to their correct usage.

It may also allow to detect too much flagging in the Program or Screen.

The net amount of WORKING-STORAGE is also an indicator of reliability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00013
Entity label    : TECHNICAL GROSS AMOUNT OF WORKING
Type of rule    : MET
Factor or criteria : C00001
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : N
SESSION NUMBER.....: 4307

```

```

Lin Op Instruction          N Parameters          Ana C
000  SUM UP                WSS                  YES

```

```

220  WITH COLUMN          TLIN
240  EQUAL TO            N '*'
900  FOR EACH             1

```

```

Lin Thresh Diagnosis          Gra Ty

```

```

000 000040                100 ST
020 000080 LARGE TECHNICAL GROSS AMOUNT OF WORKING 050 BS
040 999999 ABNORMAL TECH. GROSS AMOUNT OF WORKING 000 NS

```

The "technical" qualifier indicates that comment lines are not taken into account.

The number of lines entered in the Work Areas screen is an indication as to their correct usage and readability.

It may also allow to detect too much flagging in the Program or Screen.

REMINDER: The "gross" qualifier indicates that called Parameterized Macro-Structures are also taken into account.

```

Definition
Entity code      : I00014
Entity label     : TECHNICAL NET AMOUNT OF WORKING
Type of rule     : MET
Factor or criteria : C00001
Level of analysis : A
Entity type(s)   : PGM SCR
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : N
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM UP		WSS	NO
220	WITH COLUMN		TLIN	
240	EQUAL TO		N '*'	
900	FOR EACH		1	

Lin	Thresh	Diagnosis	Gra	Ty
000	000015		100	ST

020	000030	LARGE TECHNICAL NET AMOUNT OF WORKING	050	BS
040	999999	ABNORMAL TECHNICAL NET AMOUNT OF WORKING	000	NS

The "technical" qualifier indicates that comment lines are not taken into account.

The number of lines entered in the Work Areas screen is an indication as to their correct usage.

It may also allow to detect too much flagging in the Program or Screen.

The net amount of WORKING-STORAGE is also an indicator of reliability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00015
Entity label    : GROSS AMOUNT OF PROCEDURAL CODE
Type of rule    : MET
Factor or criteria : C00001
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : DESI TECH
Identifiers report : N
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	PRC	YES
020	FOR	EACH	1	

Lin	Thresh	Diagnosis	Gra Ty
000	000350		100 ST
020	000700	LARGE GROSS AMOUNT OF PROCEDURAL CODE	050 BS
040	999999	ABNORMAL GROSS AMOUNT OF PROCEDURAL CODE	000 NS

The number of lines entered in the Procedural Code screen is an indication as to their correct usage.

REMINDER: The "gross" qualifier indicates that called Parameterized Macro-Structures are also taken into account.

```

Definition
Entity code      : I00016
Entity label    : NET AMOUNT OF PROCEDURAL CODE
Type of rule    : MET
Factor or criteria : C00001
Level of analysis : A
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : DESI TECH
Identifiers report : N
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	PRC	NO
020	FOR EACH		1	
Lin	Thresh	Diagnosis		Gra Ty
000	000150			100 ST
020	000300	LARGE NET AMOUNT OF PROCEDURAL CODE		050 BS
040	999999	ABNORMAL NET AMOUNT OF PROCEDURAL CODE		000 NS

The number of lines entered in the Procedural Code screen is an indication as to their correct usage.
The net amount of WORKING-STORAGE is also an indicator of reliability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.


```

Definition
Entity code       : I00017
Entity label      : PROCEDURAL CODE TECHN. GROSS AMOUNT
Type of rule      : MET
Factor or criteria : C00001
Level of analysis : B
Entity type(s)    : PGM SCR
Analysis mode     : AUTO
Originating phase : DESI TECH
Identifiers report : N
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		PRC		YES
020		WITH COLUMN		DLINOP		
040		EQUAL TO	N	'* '		
120	AN	WITH COLUMN		DLINOP		
140		EQUAL TO	N	'MES'		
900		FOR EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000300			100 ST
020	000600	LARGE PROCEDURAL CODE TECHN. GROSS AMOUNT	050	BS
040	999999	ABNORMAL PROC. CODE TECHN. GROSS AMOUNT	000	NS

The "technical" qualifier indicates that comment lines are not taken into account.
The number of lines entered in the Procedural Code screen is an indication as to their correct usage.

REMINDER: The "gross" qualifier indicates that called Parameterized Macro-Structures are also taken into account.

```

Definition
Entity code      : I00018
Entity label     : PROCEDURAL CODE TECHNICAL NET AMOUNT
Type of rule     : MET
Factor or criteria : C00001
Level of analysis : A
Entity type(s)   : PGM SCR
Analysis mode    : AUTO
Originating phase : DESI PROG
Identifiers report : N
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000	SUM	UP	PRC	NO	
020	WITH	COLUMN	DLINOP		
040	EQUAL	TO	N '* '		
120	AN	WITH COLUMN	DLINOP		
140	EQUAL	TO	N 'MES'		
900	FOR	EACH	1		
Lin	Thresh	Diagnosis		Gra	Ty
000	000120			100	ST

```

020 000240 LARGE PROCEDURAL CODE TECHN. NET AMOUNT 050 BS
040 999999 ABNORMAL PROCED. CODE TECHN. NET AMOUNT 000 NS

```

The "technical" qualifier indicates that comment lines are not taken into account.
The number of lines entered in the Procedural Code screen is an indication as to their correct usage.
The net amount of Procedural Code is also an indicator of reliability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00019
Entity label    : NUMBER OF LITERALS IN SCREEN
Type of rule    : MET
Factor or criteria : C00004
Level of analysis : A
Entity type(s)  : SCR
Analysis mode   : AUTO
Originating phase : DESI
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM UP		DEL	YES
020	WITH COLUMN		ODELNA	
040	EQUAL TO		'L'	
900	FOR EACH		1	

Lin	Thresh	Diagnosis	Gra	Ty
000	000010		100	ST
020	000020	LARGE NUMBER OF LITERALS	050	BS
040	999999	ABNORMAL NUMBER OF LITERALS	000	NS

Too many literals used in a Screen map may cause maintenance problems as they cannot be found via cross-references. It may also indicate an insufficient knowledge of the management of Data Elements labels by VisualAge Pacbase.

```

Definition
Entity code      : I00020
Entity label     : PARAGRAPH NET SIZE / WORKING-STORAGE
Type of rule    : MET
Factor or criteria : C00003
Level of analysis : A
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	WSS	NO

020	FOR EACH		2	
-----	----------	--	---	--

Lin	Thresh	Diagnosis	Gra	Ty
-----	--------	-----------	-----	----

000	000001		100	ST
020	000005	SOME PARAGRAPHS IN WORKING ARE TOO LONG	050	BS
040	999999	TOO MANY PARAG. IN WORKING ARE TOO LONG	000	NS
060	000018	LENGTH OF WORK AREAS SCREEN (CH: -W)	000	LI

Paragraphs written on more than 18 lines cannot be displayed on one screen page. This may hinder readability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00021
Entity label     : NET SIZE OF SUB-FUNCTIONS
Type of rule    : MET
Factor or criteria : C00003
Level of analysis : A
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG

```

```

Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000	SUM	UP	PRC		NO
900	FOR	EACH	3		

Lin	Thresh	Diagnosis	Gra	Ty
000	000001		100	ST
020	000005	SOME SUB-FUNCTIONS ARE TOO LONG	050	BS
040	999999	TOO MANY SUB-FUNCTIONS ARE TOO LONG	000	NS
060	000018	LENGTH OF PROCEDURAL CODE SCREEN (CH:-P)	000	LI

Sub-functions written on more than 18 lines cannot be displayed on one screen page. This may hinder readability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00022
Entity label     : NUMBER OF SUB-FUNCTIONS PER FUNCTION
Type of rule     : MET
Factor or criteria : C00002
Level of analysis : B
Entity type(s)   : PGM SCR
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000	SUM	UP	PRC	NO	
020	WITH	COLUMN	NSFC		
040	EQUAL	TO	N '00'		
120	AN	WITH COLUMN	NSFC		
140	EQUAL	TO	N '99'		
900	FOR	EACH	2		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000002	SOME FCT HAVE TOO MANY SUB-FUNCTIONS	050	BS
040	999999	TOO MANY FCT HAVE TOO MANY SUB-FUNCTIONS	000	NS
060	000011	THRESHOLD NUMBER OF SUB-FUNCTIONS	000	LI

A large number of Sub-functions in a Function is an indicator as to how complex is the processing.
Too many complex Functions should be avoided.

```

Definition
Entity code       : I00023
Entity label      : NET NUMBER OF CONDITIONS
Type of rule      : MET
Factor or criteria : C00002
Level of analysis : B
Entity type(s)    : PGM SCR
Analysis mode     : AUTO
Originating phase : DESI PROG
Identifiers report : N
SESSION NUMBER....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	PRC	NO
020	WITH	COLUMN	NSFC	
040	EQUAL	TO	N '00'	
120	AN	WITH COLUMN	TSFC	
140	EQUAL	TO	N 'BL'	
220	AN	WITH COLUMN	DLINOP	
240	EQUAL	TO	N 'E '	
900	FOR	EACH	1	

Lin	Thresh	Diagnosis	Gra Ty
000	000100		100 ST
020	000200	LARGE NET NUMBER OF CONDITIONS	050 BS
040	999999	ABNORMAL NET NUMBER OF CONDITIONS	000 NS

The number of conditions is an indicator as to how complex will be the maintenance of the code in which they are used. This complexity is directly related to the degree of complexity emerging from the Application Design phase. The following Sub-Function structures; If Then (IT), Else (EL), Do (DO), Do While (DW), Case Of (CO), and Do Until (DU), are considered as conditions.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00024
Entity label     : NET NUMBER OF CONDITIONS / FUNCTION
Type of rule    : MET
Factor or criteria : C00002
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : DESI PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000		SUM UP	PRC	NO
020		WITH COLUMN	NSFC	
040		EQUAL TO	N '00'	
120	AN	WITH COLUMN	TSFC	
140		EQUAL TO	N 'BL'	
220	AN	WITH COLUMN	DLINOP	
240		EQUAL TO	N 'E '	
900		FOR EACH	2	

Lin	Thresh	Diagnosis	Gra	Ty
000	000001		100	ST

```

020 000005 SOME FUNCTIONS HAVE TOO MANY CONDITIONS 050 BS
040 999999 TOO MANY FUNCTIONS HAVE TOO MANY CONDIT. 000 NS
060 000020 ACCEPTABLE NUMBER OF CONDITIONS PER FCT 000 LI

```

The number of conditions is an indicator as to how complex will be the maintenance of the code in which they are used. This complexity is directly related to the degree of complexity emerging from the Application Design phase. However, a small number of Functions may have complex conditions.

The following Sub-Function structures; If Then (IT), Else (EL), Do (DO), Do While (DW), Case Of (CO), and Do Until (DU), are considered as conditions.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.


```

Definition
Entity code      : I00025
Entity label    : NET NUMBER OF CONDITIONS PER SUB-FCT
Type of rule    : MET
Factor or criteria : C00002
Level of analysis : A
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	PRC	NO
020	WITH	COLUMN	NSFC	
040	EQUAL	TO	N '00'	
120	AN	WITH COLUMN	TSFC	
140	EQUAL	TO	N 'BL'	
220	AN	WITH COLUMN	DLINOP	
240	EQUAL	TO	N 'E '	
900	FOR	EACH	3	

Lin	Thresh	Diagnosis	Gra	Ty
000	000001		100	ST
020	000005	SOME SUB-FCT HAVE TOO MANY CONDITIONS	050	BS
040	999999	TOO MANY SUB-F HAVE TOO MANY CONDITIONS	000	NS
060	000006	ACCEPTABLE NUMBER OF CONDITIONS IN SUB-F	000	LI

The number of conditions is an indicator as to how complex will be the maintenance of the code in which they are used. This complexity is directly related to the degree of complexity emerging from the Application Design phase. However, a small number of Sub-Functions may have complex conditions.

The following Sub-Function structures; If Then (IT), Else (EL), Do (DO), Do While (DW), Case Of (CO), and Do Until (DU), are considered as conditions.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00026
Entity label     : NET NUMBER OF 'Gxx' OPERATORS
Type of rule    : MET
Factor or criteria : C00002 C00003 C00005
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000	SUM	UP	PRC	NO	
020	WITH	COLUMN	DLINOP		
040	CONTAINING		'G'		
900	FOR	EACH	1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000010		100	ST
020	000020	LARGE NUMBER OF 'G..' OPERATORS	050	BS
040	999999	ABNORMAL NUMBER OF 'G..' OPERATORS	000	NS

Ample usage of the following operators; GT, GF, GFT, GFA, GFR, GDI, GDB, etc., shows that Structured Programming is often ignored. This may hinder readability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00027
Entity label    : SEGMENT ACCESS OPERATORS NET NUMBER
Type of rule    : MET
Factor or criteria : C00002 C00005
Level of analysis : B
Entity type(s)  : SCR
Analysis mode   : AUTO
Originating phase : DESI TECH
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		PRC	NO	
020		WITH COLUMN		DLINOP		
040		CONTAINING		'X'		
050	AN	WITH COLUMN		DLINOP		
060		CONTAINING	N	'EX'		
900		FOR EACH		1		
Lin	Thresh	Diagnosis			Gra	Ty
000	000005				100	ST
020	000010	LARGE NUMBER OF MANUAL ACCESSES			050	BS
040	999999	ABNORMAL NUMBER OF MANUAL ACCESSES			000	NS

Ample usage of Segment Access operators (used for manual logical accesses), i.e. operators of type 'X..', shows that the Structured Programming is often ignored. This may hinder readability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00028
Entity label    : NET NUMBER OF EXPLICIT PERFORMS
Type of rule    : MET
Factor or criteria : C00002 C00003
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG TECH
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		PRC		NO
020		WITH COLUMN		DLINOP		
040		EQUAL TO		'COB'		
120	AN	WITH COLUMN		DLINOD		
140		CONTAINING		'PERFORM '		
220	OR	WITH COLUMN		DLINOP		
240		EQUAL TO		' '		
320	AN	WITH COLUMN		DLINOD		
340		CONTAINING		'PERFORM '		
420	OR	WITH COLUMN		DLINOP		
440		EQUAL TO		'P '		
900		FOR EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000010		100	ST
020	000020	LARGE NUMBER OF EXPLICIT 'PERFORM'S	050	BS
040	999999	ABNORMAL NUMBER OF EXPLICIT 'PERFORM'S	000	NS

Ample usage of explicit PERFORMs may hinder readability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00029
Entity label     : NET NUMBER OF EXPLICIT PERFORMS/FCT
Type of rule     : MET
Factor or criteria : C00002 C00003
Level of analysis : B
Entity type(s)   : PGM SCR
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000	SUM	UP		PRC	NO	
020	WITH	COLUMN		DLINOP		
040	EQUAL	TO		'COB'		
120	AN	WITH COLUMN		DLINOD		
140	CONTAINING			'PERFORM '		
220	OR	WITH COLUMN		DLINOP		
240	EQUAL	TO		' '		
320	AN	WITH COLUMN		DLINOD		
340	CONTAINING			'PERFORM '		
420	OR	WITH COLUMN		DLINOP		
440	EQUAL	TO		'P '		
900	FOR	EACH		2		

Lin	Thresh	Diagnosis	Gra	Ty
000	000001			100 ST
020	000002	SOME FUNCTIONS W/ TOO MANY EXPLICIT PERF	050	BS
040	999999	TOO MANY FCT W/ TOO MANY EXPL. PERFORMS	000	NS
060	000005	ACCEPTABLE NUMBER OF PERFORMS PER FUNCT.	000	LI

Ample usage of explicit PERFORMs may hinder readability. However, any given Function may include a small number of explicit PERFORMs.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00030
Entity label     : NET NBR OF EXPLICIT PERFORMS/SUB-FCT
Type of rule     : MET
Factor or criteria : C00002 C00003
Level of analysis : A
Entity type(s)   : PGM SCR
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	PRC	NO
020	WITH	COLUMN	DLINOP	
040	EQUAL	TO	'COB'	
120	AN	WITH	DLINOD	
140	CONTAINING		'PERFORM '	
220	OR	WITH	DLINOP	
240	EQUAL	TO	' '	
320	AN	WITH	DLINOD	
340	CONTAINING		'PERFORM '	
420	OR	WITH	DLINOP	
440	EQUAL	TO	'P '	
900	FOR	EACH	3	

Lin	Thresh	Diagnosis	Gra Ty
000	000001		100 ST
020	000005	SOME SUB-FUNCTIONS W/ TOO MANY EX. PERF.	050 BS
040	999999	TOO MANY SUB-FCTS W/ TOO MANY EXP. PERF.	000 NS
060	000002	ACCEPTABLE NUMBER OF PERFORMS / SUB-FCT.	000 LI

Ample usage of explicit PERFORMs may hinder readability.
However, any given Sub-Function may include a small number

of explicit PERFORMs.

REMINDER: The "net" qualifier indicates that called
Parameterized Macro-Structures are not taken
into account.

```

Definition
Entity code      : I00031
Entity label    : NET NUMBER OF IMPLICIT PERFORMS
Type of rule    : MET
Factor or criteria : C00002 C00003
Level of analysis : B
Entity type(s)  : SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		PRC		NO
020		WITH COLUMN		DLINOP		
040		EQUAL TO		'COB'		
120	AN	WITH COLUMN		DLINOD		
140		CONTAINING		'PERFORM '		
220	OR	WITH COLUMN		DLINOP		
240		EQUAL TO		' '		
320	AN	WITH COLUMN		DLINOD		
340		CONTAINING		'PERFORM '		
420	OR	WITH COLUMN		DLINOP		
440		EQUAL TO		'P '		
520	OR	WITH COLUMN		DLINOP		
540		CONTAINING		'X'		
550	AN	WITH COLUMN		DLINOP		
560		CONTAINING	N	'EX'		
900		FOR EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000015		100	ST
020	000030	LARGE NUMBER OF IMPLICIT PERFORMS	050	BS
040	999999	ABNORMAL NUMBER OF IMPLICIT PERFORMS	000	NS

Ample usage of implicit PERFORMs may hinder readability.

NOTE : Manual logical accesses ('X..' -type Segment Access operators) are considered as implicit PERFORMs.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00032
Entity label     : NET NUMBER OF CALLs
Type of rule    : MET
Factor or criteria : C00002 C00003
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG TECH
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000		SUM UP	PRC	NO
020		WITH COLUMN	DLINOP	
040		EQUAL TO	'COB'	
120	AN	WITH COLUMN	DLINOD	
140		CONTAINING	'CALL '	
220	OR	WITH COLUMN	DLINOP	
240		EQUAL TO	' '	
320	AN	WITH COLUMN	DLINOD	
340		CONTAINING	'CALL '	
420	OR	WITH COLUMN	DLINOP	
440		EQUAL TO	'CAL'	
900		FOR EACH	1	

Lin	Thresh	Diagnosis	Gra	Ty
000	000005		100	ST
020	000010	LARGE NUMBER OF CALLS	050	BS
040	999999	ABNORMAL NUMBER OF CALLS	000	NS

Ample usage of CALLs may hinder readability.

REMINDER: The "net" qualifier indicates that called
Parameterized Macro-Structures are not taken
into account.


```

Definition
Entity code      : I00033
Entity label    : NET NUMBER OF CALLS PER FUNCTION
Type of rule    : MET
Factor or criteria : C00002 C00003
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		PRC		NO
020		WITH COLUMN		DLINOP		
040		EQUAL TO		'COB'		
120	AN	WITH COLUMN		DLINOD		
140		CONTAINING		'CALL '		
220	OR	WITH COLUMN		DLINOP		
240		EQUAL TO		' '		
320	AN	WITH COLUMN		DLINOD		
340		CONTAINING		'CALL '		
420	OR	WITH COLUMN		DLINOP		
440		EQUAL TO		'CAL'		
900		FOR EACH		2		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000			100 ST
020	000001	ONE FUNCTION INCLUDES TOO MANY CALLS	050	BS
040	999999	TOO MANY FUNCTIONS HAVE TOO MANY CALLS	000	NS
060	000005	ACCEPTABLE NUMBER OF CALLS PER FUNCTION	000	LI

Ample usage of CALLs may hinder readability.
However, any given Function may include a small number
of CALLs
REMINDER: The "net" qualifier indicates that called
Parameterized Macro-Structures are not taken
into account.

```

Definition
Entity code      : I00034
Entity label     : NET NUMBER OF CALLs PER SUB-FUNCTION
Type of rule    : MET
Factor or criteria : C00002 C00003
Level of analysis : A
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		PRC		NO
020		WITH COLUMN		DLINOP		
040		EQUAL TO		'COB'		
120	AN	WITH COLUMN		DLINOD		
140		CONTAINING		'CALL '		
220	OR	WITH COLUMN		DLINOP		
240		EQUAL TO		' '		
320	AN	WITH COLUMN		DLINOD		
340		CONTAINING		'CALL '		
420	OR	WITH COLUMN		DLINOP		
440		EQUAL TO		'CAL'		
900		FOR EACH		3		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST

```

020 000001 ONE SUB-FUNCTION INCLUDES TOO MANY CALLS 050 BS
040 999999 TOO MANY SUB-FUNCTIONS W/ TOO MANY CALLS 000 NS
060 000002 ACCEPTABLE NUMBER OF CALLS PER SUB-FCT. 000 LI

```

Ample usage of CALLs may hinder readability.
However, any given Sub-Function may include a small number
of CALLs.

REMINDER: The "net" qualifier indicates that called
Parameterized Macro-Structures are not taken
into account.

```

Definition
Entity code      : I00035
Entity label     : NET NUMBER / MANUAL SCREEN TRANSFERS
Type of rule    : MET
Factor or criteria : C00003 C00004
Level of analysis : B
Entity type(s)  : SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		PRC	NO	
020		WITH COLUMN		DLINOP		
040		EQUAL TO		'OSD'		
120	OR	WITH COLUMN		DLINOP		
140		EQUAL TO		'OSC'		
220	OR	WITH COLUMN		DLINOP		
240		EQUAL TO		'OTP'		
900		FOR EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000001		100	ST
020	000005	SOME MANUAL SCREEN TRANSFERS ARE PRESENT	050	BS
040	999999	TOO MANY MANUAL SCREEN TRANSFERS	000	NS

A large number of Screen Transfer operators ('OSD', 'OSC', 'OTP') hinders readability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00036
Entity label     : NET NUMBER OF FILES IN WORKING
Type of rule     : MET
Factor or criteria : C00001
Level of analysis : A
Entity type(s)   : SCR PGM
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	WSS	NO
020	WITH	COLUMN	TLIN	
040	EQUAL	TO	'F'	
900	FOR	EACH	1	

Lin	Thresh	Diagnosis	Gra	Ty
000	000005		100	ST
020	000010	LARGE NUMBER OF FILES IN WORKING	050	BS
040	999999	ABNORMAL NUMBER OF FILES IN WORKING	000	NS

A large number of files in the WORKING-STORAGE Section gives an idea of the number of Data Elements and Segments being processed.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

Definition
Entity code : I00037
Entity label : NET NUMBER OF PARAGRAPHS IN WORKING
Type of rule : MET
Factor or criteria : C00003

Level of analysis : A
Entity type(s) : SCR PGM
Analysis mode : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	WSS	NO
900	FOR	EACH	2	

Lin	Thresh	Diagnosis	Gra	Ty
000	000002		100	ST
020	000005	SEVERAL PARAGRAPHS IN WORK AREAS (CH:-W)	050	BS
040	999999	TOO MANY PARAGRAPHS IN WORK AREAS(CH:-W)	000	NS
060	000001	PRESENCE OF AT LEAST ONE PARAGRAPH IN -W	000	LI

A large net number of paragraphs entered in the Screen's or Program's Work Areas does not allow for a general overview, it therefore hinders readability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00038
Entity label     : NET NUMBER OF PURE COBOL OPERATORS
Type of rule    : MET
Factor or criteria : C00003 C00005
Level of analysis : B
Entity type(s)  : SCR PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000	SUM	UP		PRC		NO
020	WITH	COLUMN		DLINOP		
040	EQUAL	TO		'COB'		
120	OR	WITH COLUMN		DLINOP		
140	EQUAL	TO		'COA'		
900	FOR	EACH		1		
Lin	Thresh	Diagnosis			Gra	Ty
000	000001				100	ST

```

020 000005 LARGE NET NUMBER OF PURE COBOL OPERATORS 050 BS
040 999999 ABNORMAL NET NUMBER OF PURE COBOL OPER. 000 NS

```

Pure COBOL operators generate COBOL instructions whose particularity is that they are little portable.

The abundance of such operators may indicate an insufficient knowledge of VisualAge Pacbase operators or show that Structured Programming is somehow voluntarily ignored.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00039
Entity label    : PURE COBOL OPERATORS / SUB-FUNCTION
Type of rule    : MET
Factor or criteria : C00003 C00005
Level of analysis : A
Entity type(s)  : SCR PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM	UP	PRC	NO
020	WITH	COLUMN	DLINOP	
040	EQUAL	TO	'COB'	
120	OR	WITH COLUMN	DLINOP	
140	EQUAL	TO	'COA'	
900	FOR	EACH	3	

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
040	999999	SOME SUB-FUNCTIONS W/ SEVERAL COBOL OPER	000	NS
060	000002	ACCEPTABLE NBR OF COBOL OPERATORS/SUB-FC	000	LI

Pure COBOL operators generate COBOL instructions whose particularity is that they are little portable. The abundance of such operators may indicate an insufficient knowledge of VisualAge Pacbase operators or show that Structured Programming is somehow voluntarily ignored. However, two pure COBOL operators per sub-function is acceptable.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00040
Entity label     : NET NUMBER OF PIC CLAUSES IN WORKING
Type of rule     : MET
Factor or criteria : C00004
Level of analysis : A
Entity type(s)   : SCR PGM
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		WSS		NO
020		WITH COLUMN		DLINWD		
040		CONTAINING		' PIC'		
120	AN	WITH COLUMN		DLINWD		
140		CONTAINING	N	'\$'		
900		FOR EACH		1		
Lin	Thresh	Diagnosis			Gra	Ty
000	000005				100	ST
020	000010	LARGE NUMBER OF PIC CLAUSES			050	BS
040	999999	ABNORMAL NUMBER OF PIC CLAUSES			000	NS

PIC or PICTURE clauses invoked in WORKING-STORAGE sections jeopardize maintainability if corresponding Data Elements are subsequently created in the PACBASE/CS Specifications Dictionary.

NOTE: Such clauses are not taken into account by this indicator when they are invoked with an M.S.P. parameter.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.


```

Definition
Entity code      : I00041
Entity label     : NET NUMBER OF 'GDI' OPERATORS
Type of rule    : MET
Factor or criteria : C00002 C00003 C00005
Level of analysis : A
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	SUM UP		PRC	NO
020	WITH COLUMN		DLINOP	
040	CONTAINING		'GDI'	
900	FOR EACH		1	

Lin	Thresh	Diagnosis	Gra Ty
000	000000		100 ST

020	000001	LARGE NUMBER OF 'GDI' OPERATOR	050 BS
040	999999	ABNORMAL NUMBER OF 'GDI' OPERATOR	000 NS

The GDI operator may cause serious initialization problems.

Ample usage of the 'GDI' operator shows that Structured Programming is often ignored. This may hinder readability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00042
Entity label     : SCREEN/PROGRAM BEGINNING INSERTIONS
Type of rule    : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)  : SCR PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		CHECK PRES		BEG		NO
020		FOR EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	SPECIFIC PGM/SCREEN BEGINNING INSERTIONS	000	NS

Screen or Program Beginning Insertions must be made in
Parameterized Macro-Structures.

NOTE: This rule does not apply with a DPS7 IDS2 application.

```

Definition
Entity code      : I00043
Entity label    : P.M.S. LINES OVERRIDDEN IN WORKING
Type of rule   : MET
Factor or criteria : C00004
Level of analysis : A
Entity type(s) : SCR PGM
Analysis mode  : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000		IF EXISTS	WSS	YES	
010		CHECK PRES	WSS	YES	
020		WITH COLUMN	IPMSOV		
040		EQUAL TO	'*'		
060		FOR EACH	1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	M.S.P. LINES OVERRIDDEN IN WORKING	000	NS

Overriding P.M.S. lines cannot be recommended.
Changes made subsequently in the M.S.P. may have harmful
consequences.
In addition, the P.M.S. integrity is lost.

```

Definition
Entity code      : I00044
Entity label     : P.M.S. OVERRIDDEN IN PROCEDURAL CODE
Type of rule     : MET
Factor or criteria : C00004
Level of analysis : A
Entity type(s)   : SCR PGM
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000		IF EXISTS	PRC	YES	
010		CHECK PRES	PRC	YES	
020		WITH COLUMN	IPMSOV		
040		EQUAL TO	'*'		
060		FOR EACH	1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	M.S.P. OVERRIDDEN IN PROCEDURAL CODE	000	NS

Overriding P.M.S. lines cannot be recommended.
Changes made subsequently in the M.S.P. may have harmful
consequences.
In addition, the P.M.S. integrity is lost.

```

Definition
Entity code      : I00045
Entity label    : P.M.S. OVERRIDDEN/BEGINNING INSERT.
Type of rule    : MET
Factor or criteria : C00004
Level of analysis : A
Entity type(s)  : SCR PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000		IF EXISTS	BEG	YES	
010		CHECK PRES	BEG	YES	
020		WITH COLUMN	IPMSOV		
040		EQUAL TO	'*'		
060		FOR EACH	1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	P.M.S. OVERRIDDEN / BEGINNING INSERTIONS	000	NS

Overriding P.M.S. lines cannot be recommended.
Changes made subsequently in the M.S.P. may have harmful
consequences.
In addition, the P.M.S. integrity is lost.

```

Definition
Entity code      : I00046
Entity label     : EXISTENCE OF SUB-FUNCTION TITLES
Type of rule    : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)  : SCR PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		IF EXISTS		PRC		NO
002		WITH COLUMN		DLINOP		
004		EQUAL TO	N	'SUP'		
010		CHECK PRES		PRC		NO
020		WITH COLUMN		DLINOP		
040		EQUAL TO		'N '		
120	AN	WITH COLUMN		DLINOD		
140		EQUAL TO	N	' '		
900		FOR EACH		3		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST

020	999999	SOME SUB-FUNCTIONS HAVE NO TITLE	000	NS
050	000000	UNTITLED SUB-FUNCTION	000	LI

All Sub-Functions must have a title.

NOTE: The absence of a Sub-Function title may be due to P.M.S. lines completed at the calling Screen or Program level.

```

Definition
Entity code      : I00047
Entity label    : CONDITIONS IN REPORT
Type of rule    : MET
Factor or criteria : C00001
Level of analysis : A
Entity type(s)  : RPT
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000	CHECK	PRES		CAT		
020	WITH	COLUMN		TLIN		
040	EQUAL	TO		'E '		
120	AN	WITH		DCNDRE		
140	EQUAL	TO	N	' '		
900	FOR	EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	CONDITIONS ENTERED IN 'E'-TYPE LINE	000	NS

Conditions in Reports may cause totalling problems.

```

Definition
Entity code      : I00049
Entity label     : PRESENCE OF 'SUP' OPERATOR(S)
Type of rule    : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)  : SCR PGM

```

```

Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	CHECK	PRES	PRC	NO
020	WITH	COLUMN	DLINOP	
040	EQUAL	TO	'SUP'	
900	FOR	EACH	1	

Lin	Thresh	Diagnosis	Gra Ty
000	000000		100 ST
020	000001	ONE 'SUP' OPERATOR IN SPECIFIC LINES	000 NS

'SUP' operators must be used only in Parameterized Macro-Structures. Otherwise, when used in specific lines, they jeopardize the Structured Programming.


```

Definition
Entity code      : I00050
Entity label     : USE OF THE "GO TO" COBOL INSTRUCTION
Type of rule    : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)  : SCR PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000		SUM UP	PRC		NO
020		WITH COLUMN	DLINOP		
040		EQUAL TO	'COB'		
060	AN	WITH COLUMN	DLINOD		
080		CONTAINING	'GO '		
120	OR	WITH COLUMN	DLINOP		
140		EQUAL TO	' '		
160	AN	WITH COLUMN	DLINOD		
180		CONTAINING	'GO '		
900		FOR EACH	1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000001			ST

020 999999 SEVERAL "GO TO" COBOL INSTRUCTIONS FOUND 000 NS

Usage of the "GO TO" COBOL instruction is not advisable with Structured Programming.

```

Definition
Entity code      : I00051
Entity label     : USE OF THE "ALTER" COBOL INSTRUCTION
Type of rule     : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)   : SCR PGM
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000	CHECK	PRES	PRC		NO
020	WITH	COLUMN	DLINOP		
040	EQUAL	TO	'COB'		
060	AN	WITH COLUMN	DLINOD		
080	CONTAINING		'ALTER '		
120	OR	WITH COLUMN	DLINOP		
140	EQUAL	TO	' '		
160	AN	WITH COLUMN	DLINOD		
180	CONTAINING		'ALTER '		
900	FOR	EACH	1		

```

Lin Thresh Diagnosis      Gra Ty
000 000000                100 ST
020 000001 SEVERAL "ALTER" COBOL INSTRUCTIONS FOUND 000 NS

```

Usage of the "ALTER" COBOL instruction is not advisable with Structured Programming.

```

Definition
Entity code       : I00052
Entity label     : USE OF "VARYING" COBOL INSTRUCTION
Type of rule    : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)  : SCR PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000	CHECK	PRES	PRC	NO	
020	WITH	COLUMN	DLINOP		
040	EQUAL	TO	'COB'		
060	AN	WITH COLUMN	DLINOD		
080	CONTAINING		'VARYING '		
120	OR	WITH COLUMN	DLINOP		
140	EQUAL	TO	' '		
160	AN	WITH COLUMN	DLINOD		
180	CONTAINING		'VARYING '		
900	FOR	EACH	1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	SEVERAL "VARYING" COBOL INSTRUCTIONS	000	NS

Usage of the "VARYING" COBOL instruction is not advisable with Structured Programming.

```

Definition
Entity code      : I00053
Entity label     : USE OF "DEPENDING" COBOL INSTRUCTION
Type of rule    : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)  : SCR PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	CHECK	PRES	PRC	NO
020	WITH	COLUMN	DLINOP	
040	EQUAL	TO	'COB'	
060	AN	WITH COLUMN	DLINOD	
080	CONTAINING		'DEPENDING '	
120	OR	WITH COLUMN	DLINOP	
140	EQUAL	TO	' '	
160	AN	WITH COLUMN	DLINOD	
180	CONTAINING		'DEPENDING '	
900	FOR	EACH	1	

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	SEVERAL "DEPENDING" COBOL INSTRUCTIONS	000	NS

Usage of the "DEPENDING" COBOL instruction is not advisable with Structured Programming.

```

Definition
Entity code      : I00054
Entity label    : USE OF "CORRESPONDING" COBOL INSTRU.
Type of rule    : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)  : SCR PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000	CHECK	PRES		PRC		NO
020	WITH	COLUMN		DLINOP		
040	EQUAL	TO		'COB'		
060	AN	WITH COLUMN		DLINOD		
080	CONTAINING			'CORRESPONDING '		
120	OR	WITH COLUMN		DLINOP		
140	EQUAL	TO		' '		
160	AN	WITH COLUMN		DLINOD		
180	CONTAINING			'CORRESPONDING '		
900	FOR	EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000			100 ST
020	000001	SEVERAL "CORRESPONDING" COBOL INSTRUCT.	000	NS

Usage of the "CORRESPONDING" COBOL instruction is not advisable with Structured Programming.

```

Definition
Entity code      : I00055
Entity label     : USE OF THE "UNTIL" COBOL INSTRUCTION
Type of rule     : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)   : SCR PGM
Analysis mode    : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000		CHECK PRES	PRC	NO
020		WITH COLUMN	DLINOP	
040		EQUAL TO	'COB'	
060	AN	WITH COLUMN	DLINOD	
080		CONTAINING	'UNTIL '	
120	OR	WITH COLUMN	DLINOP	
140		EQUAL TO	' '	
160	AN	WITH COLUMN	DLINOD	
180		CONTAINING	'UNTIL '	
900		FOR EACH	1	

```

Lin Thresh Diagnosis      Gra Ty
000 000000                100 ST
020 000001 SEVERAL "UNTIL" COBOL INSTRUCTIONS FOUND 000 NS

```

Usage of the "UNTIL" COBOL instruction is not advisable with Structured Programming.

```

Definition
Entity code       : I00056
Entity label      : USE OF "CONSOLE" COBOL INSTRUCTION
Type of rule      : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)    : SCR PGM
Analysis mode     : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000	CHECK	PRES		PRC		NO
020	WITH	COLUMN		DLINOP		
040	EQUAL	TO		'COB'		
060	AN	WITH COLUMN		DLINOD		
080	CONTAINING			'CONSOLE '		
120	OR	WITH COLUMN		DLINOP		
140	EQUAL	TO		' '		
160	AN	WITH COLUMN		DLINOD		
180	CONTAINING			'CONSOLE '		
900	FOR	EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	SEVERAL "CONSOLE" COBOL INSTRUCTIONS	000	NS

Usage of the "CONSOLE" COBOL instruction is not advisable with Structured Programming.

```

Definition
Entity code       : I00057
Entity label      : USE OF "DISPLAY" COBOL INSTRUCTION
Type of rule      : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)    : SCR PGM
Analysis mode     : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.... : 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000	CHECK	PRES		PRC		NO
020	WITH	COLUMN		DLINOP		
040	EQUAL	TO		'COB'		
060	AN	WITH COLUMN		DLINOD		
080	CONTAINING			'DISPLAY '		
120	OR	WITH COLUMN		DLINOP		
140	EQUAL	TO		' '		
160	AN	WITH COLUMN		DLINOD		
180	CONTAINING			'DISPLAY '		
220	OR	WITH COLUMN		DLINOP		
240	EQUAL	TO		'MES'		
900	FOR	EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	SEVERAL "DISPLAY" COBOL INSTRUCTIONS	000	NS

Usage of the "DISPLAY" COBOL instruction is not advisable with Structured Programming.


```

Definition
Entity code      : I00058
Entity label     : FUNCTIONAL DOCUMENTATION
Type of rule    : MET
Factor or criteria : C00003
Level of analysis : A
Entity type(s)  : SCR PGM RPT
Analysis mode   : AUTO
Originating phase : DESI
Identifiers report : N
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000	SUM	UP		TXT		
020	WITH	COLUMN		DLINTX		
040	EQUAL	TO	N	' '		
900	FOR	EACH		1		

Lin	Thresh	Diagnosis	Gra	Ty
-----	--------	-----------	-----	----

020	000050	FUNCTIONAL DOCUMENTATION IS INSUFFICIENT	000	NS
040	000500	FUNCTIONAL DOCUMENTATION IS FINE	100	ST
060	999999	FUNCTIONAL DOCUMENTATION IS WORDY	050	BS

Functional Documentation must be written so as to constitute the Programming Book.

```

Definition
Entity code      : I00059
Entity label     : TECHNICAL DOCUMENTATION
Type of rule    : MET
Factor or criteria : C00003
Level of analysis : A
Entity type(s)  : SCR PGM RPT
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : N
SESSION NUMBER.....: 4307

```

```

Lin Op Instruction          N Parameters          Ana C
000  SUM UP                DOC
020  WITH COLUMN          DLIN
040  EQUAL TO             N ' '
900  FOR EACH              1

```

```

Lin Thresh Diagnosis          Gra Ty
020 000010 TECHNICAL DOCUMENTATION IS INSUFFICIENT 000 NS
040 000060 TECHNICAL DOCUMENTATION IS FINE          100 ST
060 999999 TECHNICAL DOCUMENTATION IS WORDY        050 BS

```

Technical Documentation must be written in addition to the Functional Documentation in the Programming Book.

```

Definition
Entity code      : I00060
Entity label     : SEGMENT SELECTION  00 RENAME IN -CD
Type of rule    : MET
Factor or criteria : C00004
Level of analysis : A
Entity type(s)  : PGM
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana	C
000	CHECK	PRES	DST		
020	WITH	COLUMN	DDSTSK		
040	CONTAINING		'=00'		
900	FOR	EACH	1		

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST

```

020 000001 SEGMENT SELECTION  00 RENAMING IN '-CD' 000 NS

```

It is recommended to define a 00-type special Segment rather than simulate it via a rename on the Program's Call of Data Structures screen (CH: -CD).

Also, this 00-type special Segment will be used when the Data Base is loaded onto sequential file(s).

```

Definition
Entity code      : I00062
Entity label    : PHYSICAL ACCESSES WITHOUT P.M.S.s
Type of rule    : MET
Factor or criteria : C00005
Level of analysis : A
Entity type(s)  : SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000	CHECK	PRES	PRC	NO
020	WITH	COLUMN	DLINOP	
040	CONTAINING		'Y'	
900	FOR	EACH	1	

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST

020	000001	PHYSICAL ACCESSES WITHOUT M.S.P.'S	000	NS
-----	--------	------------------------------------	-----	----

All physical accesses must be initialized by a Parameterized Macro-Structure.

```

Definition
Entity code      : I00063
Entity label    : NET NUMBER OF LINKS
Type of rule    : MET
Factor or criteria : C00002 C00003
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG TECH
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N	Parameters	Ana	C
000		SUM UP		PRC		NO
020		WITH COLUMN		DLINOP		
040		EQUAL TO		'COB'		
120	AN	WITH COLUMN		DLINOD		
140		CONTAINING		'LINK '		
220	OR	WITH COLUMN		DLINOP		
240		EQUAL TO		' '		
320	AN	WITH COLUMN		DLINOD		
340		CONTAINING		'LINK '		
420	OR	WITH COLUMN		DLINOP		
440		EQUAL TO		'EXC'		
520	AN	WITH COLUMN		DLINOD		
540		CONTAINING		'LINK '		
900		FOR EACH		1		
Lin Thresh Diagnosis					Gra	Ty
000		000005			100	ST
020		000010		LARGE NET NUMBER OF LINKS	050	BS
040		999999		ABNORMAL NET NUMBER OF LINKS	000	NS

A large number of links may hinder readability.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

```

Definition
Entity code      : I00064
Entity label     : NET NUMBER OF LINKS PER FUNCTION
Type of rule    : MET
Factor or criteria : C00002 C00003
Level of analysis : B
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000		SUM UP	PRC	NO
020		WITH COLUMN	DLINOP	
040		EQUAL TO	'COB'	
120	AN	WITH COLUMN	DLINOD	
140		CONTAINING	'LINK '	
220	OR	WITH COLUMN	DLINOP	
240		EQUAL TO	' '	
320	AN	WITH COLUMN	DLINOD	
340		CONTAINING	'LINK '	
420	OR	WITH COLUMN	DLINOP	
440		EQUAL TO	'EXC'	
520	AN	WITH COLUMN	DLINOD	
540		CONTAINING	'LINK '	
900		FOR EACH	2	

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	ONE FUNCTION WITH TOO MANY LINKS	050	BS
040	999999	TOO MANY FUNCTIONS HAVE TOO MANY LINKS	000	NS
060	000005	ACCEPTABLE NUMBER OF LINKS PER FUNCTION	000	LI

A large number of links may hinder readability.
However, any given Function may include a small number of
LINKs.

REMINDER: The "net" qualifier indicates that called
Parameterized Macro-Structures are not taken
into account.

```

Definition
Entity code       : I00065
Entity label     : NET NUMBER OF LINKS PER SUB-FUNCTION
Type of rule    : MET
Factor or criteria : C00002 C00003
Level of analysis : A
Entity type(s)  : PGM SCR
Analysis mode   : AUTO
Originating phase : PROG
Identifiers report : Y
SESSION NUMBER.....: 4307

```

Lin	Op	Instruction	N Parameters	Ana C
000		SUM UP	PRC	NO
020		WITH COLUMN	DLINOP	
040		EQUAL TO	'COB'	
120	AN	WITH COLUMN	DLINOD	
140		CONTAINING	'LINK '	
220	OR	WITH COLUMN	DLINOP	
240		EQUAL TO	' '	
320	AN	WITH COLUMN	DLINOD	
340		CONTAINING	'LINK '	
420	OR	WITH COLUMN	DLINOP	
440		EQUAL TO	'EXC'	
520	AN	WITH COLUMN	DLINOD	
540		CONTAINING	'LINK '	
900		FOR EACH	3	

Lin	Thresh	Diagnosis	Gra	Ty
000	000000		100	ST
020	000001	ONE SUB-FUNCTION WITH TOO MANY LINKS	050	BS
040	999999	TOO MANY SUB-FCT'S HAVE TOO MANY LINKS	000	NS
060	000002	ACCEPTABLE NUMBER OF LINKS/SUB-FUNCTION	000	LI

A large number of links may hinder readability. However, any given Sub-Function may include a small number of LINKs.

REMINDER: The "net" qualifier indicates that called Parameterized Macro-Structures are not taken into account.

Quality control execution (PQCA)

To start the quality control function, execute the PQCA batch procedure. Refer to the 'Administrator's procedures' manual for a detailed documentation about the PQCA procedure.

This procedure requires two types of user input:

1. Required input:

- One '*' line:

Pos.	Len.	Value	Meaning
2	1	*	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	User password
19	3	bbb	Library code
22	4	ssss	Session number
		BLANK/9999	Current session
26	1		Version of frozen session:
		' ' or H	Initial
		T	Test

For details about '*' line, consult the 'Administrator's procedures' manual (chapter 1).

- One 'Z'-line per occurrence to analyze (required):

Pos.	Len.	Value	Meaning
2	1	Z	Line code
5	3		Command line including entity type
		DCO	Dialog/Screen Analysis
		DCP	Batch Program Analysis
		DCR	Report Analysis
		DGC	Client Component Analysis
		DGS	Server Component Analysis
		GCO	Screen analysis + generation
		GCP	Program analysis + generation
		GGC	Client Component analysis + gener.
		GGC	Server Component analysis + gener.
9	6	cccccc	Occurrence code
15	2	C1	Analysis without associated texts
		C2	Analysis of Program or Report with associated texts
		C3	Analysis of Dialog with associated texts

Note

You must carefully choose the option because PQCA analyzes the GPRT print file. If you choose the C1 option for the DCP command, the associated texts will not appear and therefore will not be taken into account by PQCA.

1. Optional input: Parameterization of Analysis

Pos.	Len.	Value	Meaning
2	1		Line code:
		I	Indicator selection
		C	Criteria selection
		F	Factor selection
		Q	Selection of Level of Analysis
		R	Report type selection
		N	Modification: Weighting parameters
		S	Modification: Indicator thresholds
		M	Minimum grade accepted (0 to 100)
		E	Identifiers report

3	6		If line code = I, C, or F (1)
		cccccc	Code of indicator, criterion or factor

3	1		If line code = Q (2)
		A	Overview analysis
		B	Detailed analysis
		C or ' '	In-depth analysis (default option)

3	1		If line code = R
		1	Global report
		' '	Detailed report (default option)

			If line code = N
3	1	0 to 9	Weighting parameter for Indicators assigned the 'A' Level of Analysis
		1	Default value
4	1	0 to 9	Weighting parameter for Indicators assigned the 'B' Level of Analysis
		1	Default value

If line code = N			
5	1	0 to 9	Weighting parameter for Indicators assigned the 'C' Level of Analysis
		1	Default value

If line code = S			
3	6	cccccc	Code of Indicator whose threshold(s) are to be modified
9	2		Type of threshold to modify:
		ST	Standard
		BS	Below standard
		NS	Non-standard
		LI	Limit
11	6		New threshold value
17	2		Type of threshold to modify
19	6		New threshold value
25	2		Type of threshold to modify
27	6		New threshold value
33	2		Type of threshold to modify
35	6		New threshold value

If line code = M			
3	3	nnn	Minimum grade accepted (0 to 100)

If line code = E			
3	1	Y or blank	Identifiers report
		N	No identifiers report

- (1): 'T', 'C', and 'F'-type lines are incompatible. However, each type of line can be repeated as many times as necessary.
- (2): If there is a 'Q'-type line entered, it must be unique.

Chapter 5. Creation of Customized rules & Implementation

Creation of Customized Rules

You are free to create new quality rules and to parameterize them according to the standards of your company.

The quality rules you will create will be defined via an Extension Meta Entity which is supplied with the 'Extensibility' utility of Pacbench Quality Control. The code of this Meta Entity is '.QPAQC' and its Tupe code is '5Q'. This Meta Entity cannot be modified.

You will use this Extension Meta Entity to define the factors, criteria and indicators of your quality control.

Principle

1. First, you must create a User Entity of the .QPAQC Extension Meta Entity for each factor, and a User Entity of this Meta Entity for each criterion.

Since only the indicators are used in the analysis, the factors and criteria only need to be defined.

2. Then you must define a User Entity of .QPAQC for each indicator, associate it with a level of analysis, a rating and comments.

The syntax of these elements is explained in the next sub-chapters.

For information about Meta Entities, refer to AD workbench online help.

For information about User Entities, refer to AD workbench online help or to the 'Dictionary Extensibility' module (for a character-mode interface).

Implementation in VA Pac in character mode

- Creation of a User Entity

You access the Definition of a User Entity of the .QPAQC Extension Meta Entity by entering Y5Q followed by the User Entity code (on 6 characters) in the Choice field (CH:).

- Association of an analysis level for an Indicator

You enter your analysis request in the first Description screen of the User Entity. You access this screen by entering 'Y5Q..... D1' in the choice field.

- Association of a rating for an Indicator

You enter your rating in the second Description screen of the User Entity. You access this screen by entering 'Y5Q..... D2' in the choice field.

- Association of comments for an Indicator

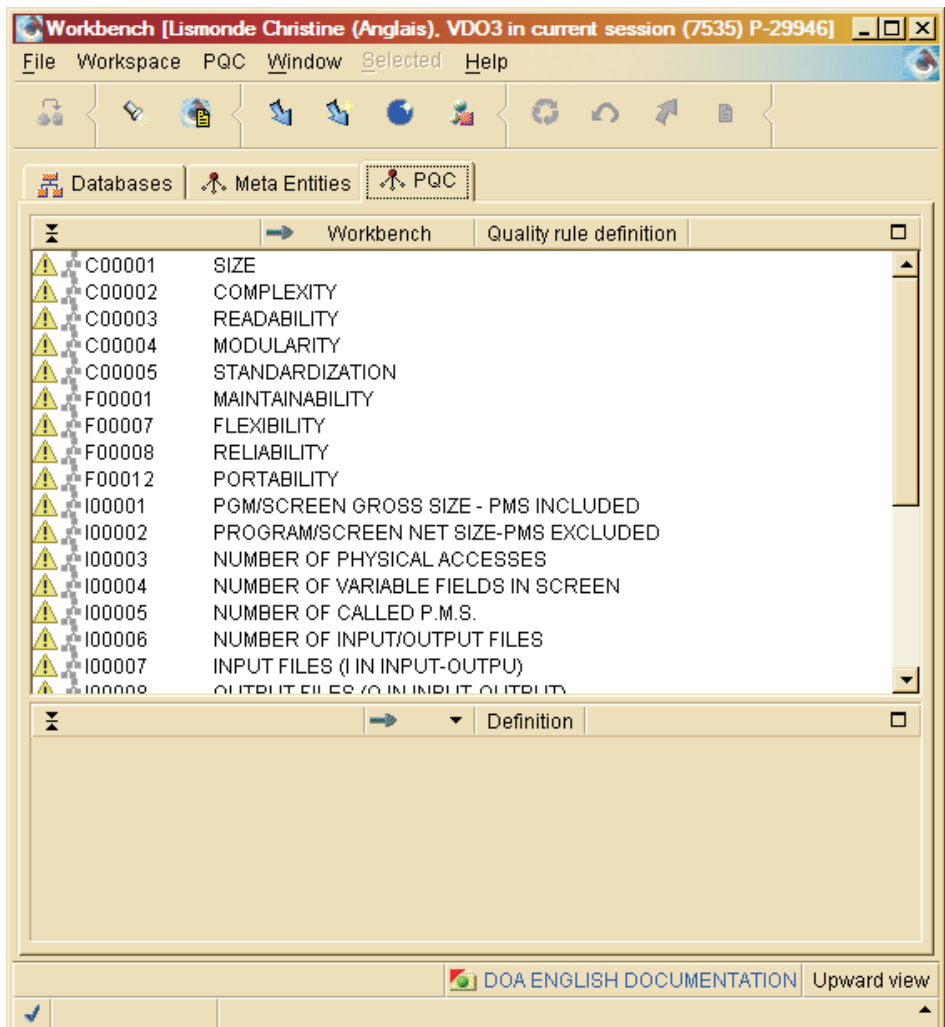
You enter your comment lines in the screen obtained via the 'Y5Q..... GC' choice.

The input fields of the Definition of Description screens of the .QPAQC User Entities are described in chapter 'Analysis - Rating - Results', sub-chapter 'Principles of analysis / Technical Implementation'.

Implementation in AD workbench

With AD workbench, you can define and describe User Entities of the .QFACQ Extension Meta Entity by creating a new module, from the Administrator or Global module, and by inserting a PQC tab in it. All the operations you must carry out are described in detail in the 'readme.txt' file supplied with AD workbench.

From the PQC tab, you can import User Entities or create new ones.



- Definition of a User Entity

You can create a User Entity via the contextual (pop-up or 'Selected') menu from the list, or by clicking the create icon in the toolbar.

- Definition of the Analysis for an Indicator

You enter your analysis request from the Descriptions tab of the Indicator. Select the 'Analysis' description and select 'Add a new description line' in the contextual menu.


Fill in the input fields and click on 'Finish'.

Smart Guide

Create new item of Analysis

Properties

Line number	
Operator for search	
Instruction	
Negation	
Parameters	
Anal. of called li	
Character string d	

 DOA ENGLISH DOCUMENTATION

What do you want to do when finished ?

Return

Open the browser

Do another creation

Line number : value is required.

<<Back Next>> Finish Cancel

- Definition of the Rating

You enter your rating from the Descriptions tab of the Indicator. Select the 'Rating' description and select 'Add a new description line' in the contextual menu.


Fill in the input fields and click on 'Finish'.

Smart Guide

Create new item of Rating

Properties

Line number	
Threshold	
Diagnosis	
Grade	
Type of rating	

 DOA ENGLISH DOCUMENTATION

What do you want to do when finished ?

Return

Open the browser

Do another creation

Line number : value is required.

<<Back Next>> Finish Cancel

- Comments
You can add comments to the Indicator in the 'Comment' tab of the User Entity.

Analysis syntax

Syntax of Quality Indicators

A quality indicator is written in a specific syntax you enter in the first Description of the User Entity which describes it (Y5Q.....D1 choice in the character mode, or 'Analysis'-type Description in AD workbench).

Syntactic units are available to formulate a Quality Control request, they are to be entered in the Instruction field of the Indicator Description.

IF EXISTS: Checks the presence of a type of line specified in the PARAMETERS field, and conditions another action (SUM UP, CHECK PRES).

SUM UP: Adds lines of the type specified in the PARAMETERS field.

CHECK PRES: Checks the presence of a type of line specified in the PARAMETERS field.

WITH COLUM: Indicates that a validation is to be made for the field specified in the PARAMETERS field.

Important note:

The fields used by the Program, Screen and Report entity types are identified by their PAF SQL codes. This is why they are called COLUMNS.

Refer to the 'Pacbase Access Facility : Tables' documentation supplied as a complement to the present manual for the complete list of PAF SQL codes.

CONTAINING: Validates the presence (or the absence in case of negation) of a character string specified in the PARAMETERS field.

EQUAL TO: Checks that the character string entered in the PARAMETERS field is (or is not in case of negation) the character string found in the field/column previously specified.

LESS: Checks that the character string entered in the PARAMETERS field is less than (or 'greater than or equal to' in case of negation) the character string found in the field/column previously specified.

HIGHER: Checks that the character string entered in the PARAMETERS field is greater than (or 'less than or equal to' in case of negation) the character string found in the field/column previously specified.

FOR EACH: Specifies the identifier level on the Indicator analysis is performed (1 = entity, 2 = function, 3 = sub-function).

Note: If the level is 2 or 3, the LI type must be entered.

Syntax rules

The first instruction line must mention an IF EXISTS, or a SUM UP, or a CHECK PRES.

Besides, the instruction can include only one of each of these three syntactic units.

Also, the instruction must include one SUM UP or one CHECK PRES (these two syntactic units being incompatible), and one FOR EACH.

IF EXISTS is necessarily followed by a CHECK PRES or a SUM UP.

EQUAL TO, LESS, HIGHER, and CONTAINING must be preceded by a WITH COLUMN.

Several EQUAL TO, LESS, HIGHER, or CONTAINING may be used if an Operator (OR and/or AN) is entered before each one of these syntactic units starting with the second.

If the instruction includes AN (and) and OR operators, they will not be processed sequentially; AN is prioritized.

EXAMPLE:

```
WITH COLUMN    COLUM1
EQUAL TO      'nnn'
OR WITH COLUMN COLUM2
EQUAL TO      'mmm'
AN WITH COLUMN COLUM3
EQUAL TO      'ppp'
```

This indicator will be verified if COLUM2 and COLUM3 have the mmm and ppp values, respectively, OR if COLUM1 has the nnn value.

FOR EACH and WITH COLUMN cannot be followed by a negation.

The Character String Delimiter is used only with CONTAINING, EQUAL TO, LESS, and HIGHER. The default delimiter is ' (simple quote).

The last instruction line must mention a FOR EACH; there is no default option.

Rating syntax

Rating syntax

The second Description (Y5Q.....D2 choice in the character mode or 'Rating'-type Description in AD workbench) enables you to enter the rating you want to associate with an Indicator.

You can define up to four grading thresholds (6-digit numeral in the THRESHOLD field).

Each threshold is associated with a TYPE of rating and a GRADE.

The DIAGNOSIS field should be entered with an explicit label.

A grade out of 100 is indicated in the GRA field, according to the grading threshold.

Notes:

The LLimit TYPE is required when the Indicator is assigned an Identifier level '2' or '3'.

With a CHECK PRES, thresholds must be set to 0 and 1.

With a SUM UP, the 999999 maximum threshold value is required.

Extraction of Customized Quality Rules (PQCE)

Before proceeding to the actual Quality Control (PQCA), user-defined quality rules (User Entities of the .QPAQC Extension Meta Entity) which have been created, must be extracted to a file via the PQCE batch procedure.

This file will be used as input to the PQCA procedure. Refer to the 'Administrator's procedures' manual for a detailed documentation about this procedure.

PQCE user input

. One '*'-line (required):

Pos.	Len.	Value	Meaning
2	1	*	Line code
3	8	uuuuuuuu	User code
11	8	pppppppp	User password
19	3	bbb	Library code
22	4	ssss	Session number (blank=current session
26	1	T	Session status if Test session
28	1		Not used
29	4	EXUE	Extractor code

. One Extraction line for all User Entities of the Extension Meta Entity dedicated to Quality Control (required):

Pos.	Len.	Value	Meaning
2	4	W1EX	Line code
6	1	Y	Identifier of U.E. extractions
7	1		Library selection:
		U	Selected Library
		C	Selected Library+Higher-Level Lib.
8	2	5Q	Type code of User Entity dedicated to quality control

Once the quality rules extracted, you can execute the PQCA procedure, documented in the previous chapter, to start the quality control function.



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