HEXAGON

Q-DAS M-QIS Engine

Weekly Report – Characteristics not capable

Reporting-System Case Studies

CAS
19 February 2024
Created with Version V14

HxGN Quality Assurance

Information about this document

Parts of this document may be automatically translated.

Document History

Version	Date	Author(s)	Modifications / Remarks
	08.01.2023	GA	Initial release (QDas-1787)
v-0.8	21.08.2023	LG	New template

CONTENTS

1 Task

A report is to be sent which lists all characteristics which have been measured last week, that are not capable with the data from the last 12 weeks. If such a characteristic has been identified, the statistics of all measured values of the time period “last 12 weeks complete” shall be shown in the report. If all characteristics of a part are capable, the report is not printed or send.

This document only describes the settings required for this very task. Only the manual for M-QIS products provides you with detailed descriptions of the single options. This documentation does not describe WHO receives the report or special settings for filenames. It only shows how to print the report as a PDF.

In a reporting job, there are different levels that needs to be taken in the consideration. Following list represents those levels, with the location in the software where this is defined.

- Read from database (create queries)
  - Which data pool is loaded from the database?
- Evaluation strategy
  - How is the data pool mathematically evaluated?
- Report assignment for Reporting System
  - Which report template is used?
  - What is the reason to include a characteristic in the Report?
  - How to distribute the pdf report (save to… / e-mail)
- Reporting-System
  - When is the reporting job triggered?

Read from database	A query including the Parts which have measured values from the last week, with a value-filter “Last 12 weeks complete”, for all identified characteristics.
Evaluation strategy	The evaluation strategy is crucial here. What does "capable" mean? Depending on the type of characteristic, many different requirements / conditions may be used to assess capability. For the sake of simplicity, however, the "capability according to C-values" of the standard strategy is used in this example.
Report assignment for Reporting System	PC_0040_ValueChart_Histogram_ProbabilityPlot.def Bad Smiley Report with special condition “Requirements according to evaluation method” to sort out all capable characteristics
Reporting-System	08:00 AM Monday, every week

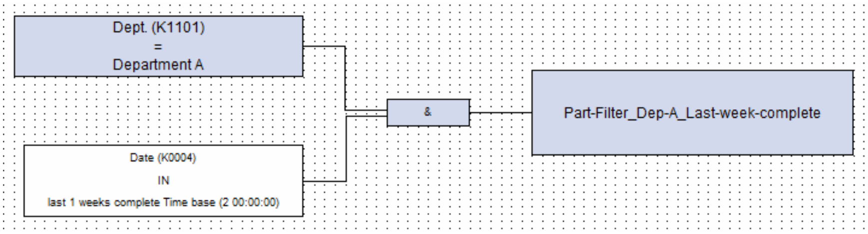
The Reporting-System is running with the **„SuperUser”**. It is important to make all settings with this user.

1.1 Read from Database

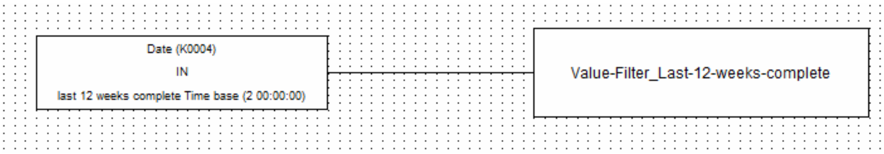
It is assumed that readers have a basic knowledge of the complex filters and queries.

The pre-selection of parts/test plans is elementary here, in this example the components of "Department A" are used.

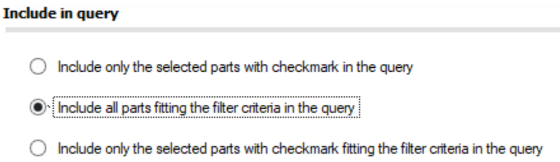
The part filter reduces the set of test plans from "Department A" to those that have measured values from the last week.



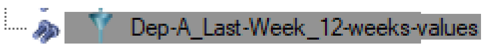
The measured value filter reduces the set of measured values to those from the last 12 weeks.



A dynamic query is created that re-lists the parts to be loaded each time it is executed.



The query should be saved with a meaningful name.



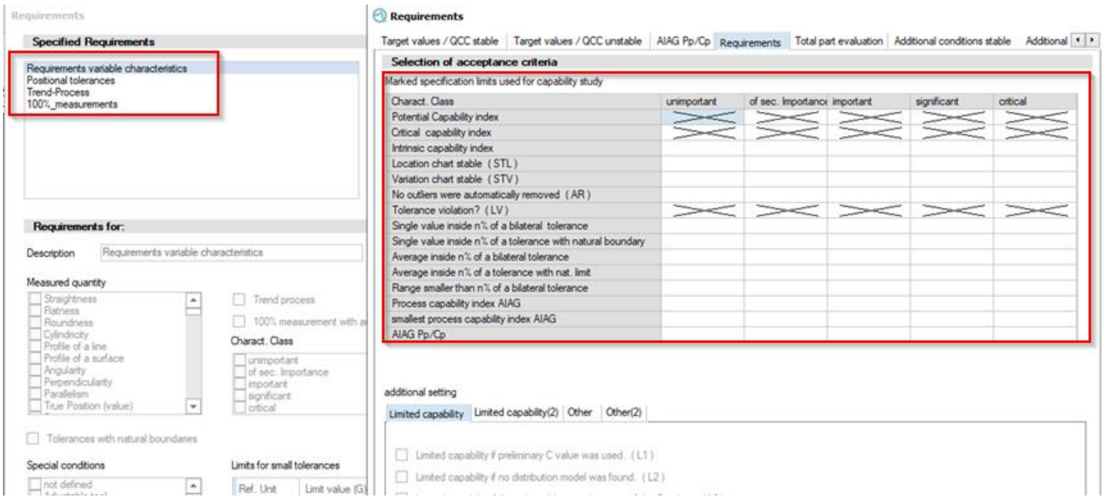
1.2 Evaluation Strategy

The evaluation strategy is crucial. From the manuals for evaluation strategy, readers know that various requirements can be set depending on the process type, depending on the K-fields.

In the report assignment, the special conditions alarm "Requirements according to evaluation method" will be set for this reporting job. Thanks to many possibilities of evaluation strategy, it is a very variable and adjustable alarm.

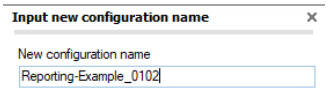
In the screenshot below readers can see some possible settings that can be set for capability of the characteristic in one of the evaluation strategies. The requirements for capability can be set separately for multiple types of processes like:

- Variable characteristics
- Positional tolerance
- Characteristics with trend
- 100% measurement
- And many others…

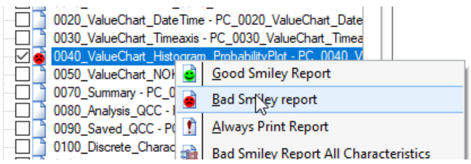


1.3 Report Assignment for Reporting-System

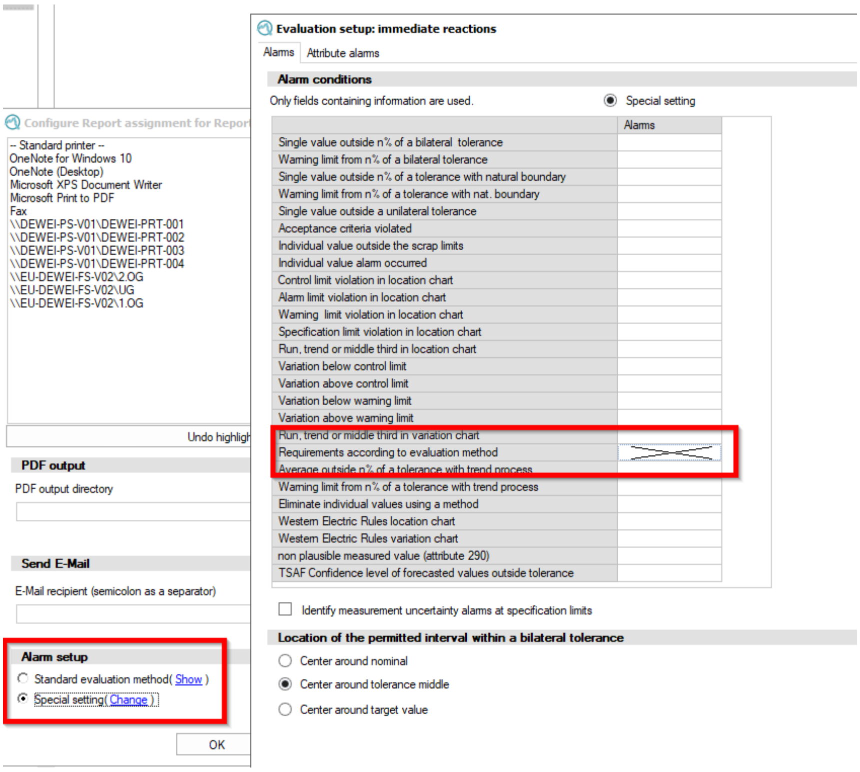
A new configuration is created in the report assignment for Reporting System.



After assigning a name, the report template to be printed is selected. Using the right mouse click, the report can be defined as “Bad Smiley report”. The “reason” for bad smiley report must be defined then.

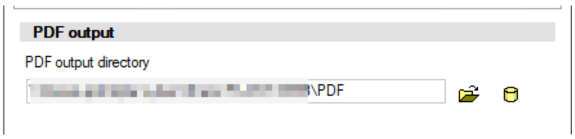


This is defined in the next dialogue by the "special settings" option.



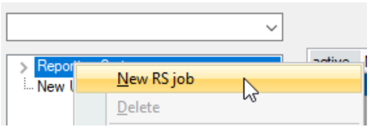
Due to the task, the alarm "Requirements according to evaluation method" is selected here.

Furthermore, it is specified that the report is to be printed as a PDF. All other options, such as sending the reports by e-mail, are explained in the Reporting System Manual.

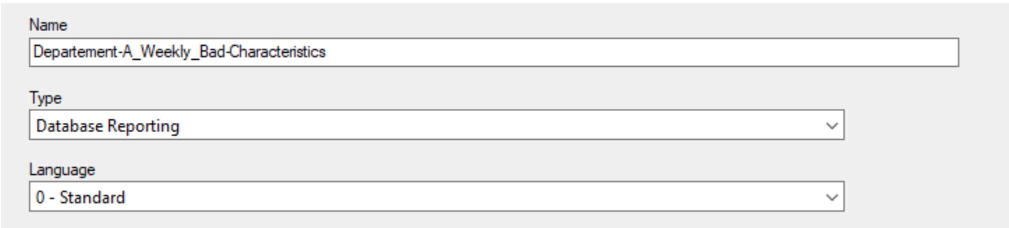


1.4 Reporting System

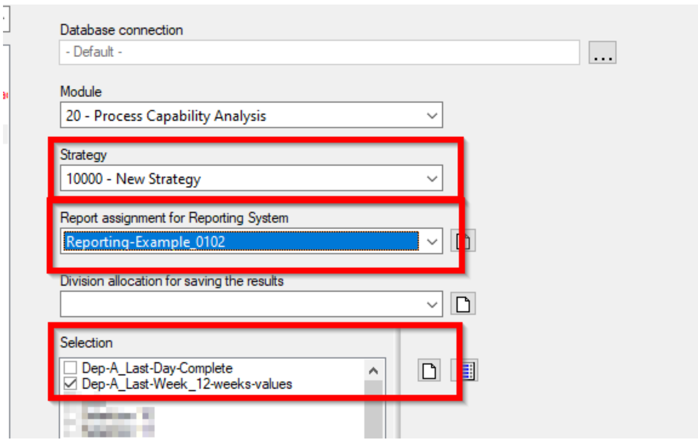
A new job is created in the reporting system.



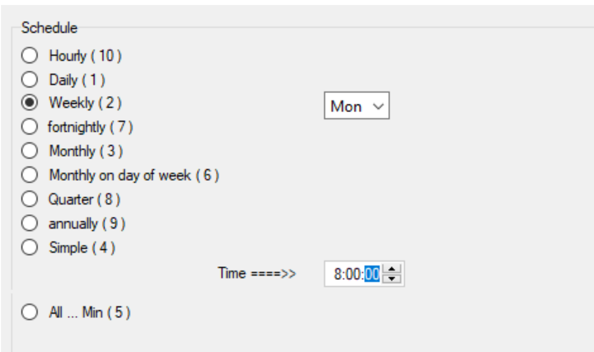
The reporting job should be given a meaningful name



In the settings, the report assignment for Reporting System, the Strategy and the query are assigned to the reporting job:



The trigger of the reporting job is scheduled on every Monday at 8:00 AM.



2 Result

Of the entire set of characteristics, only the characteristic which are not capable, according to the chosen strategy, are printed. The report is only printed, when not capable characteristics does exist in the dataset!

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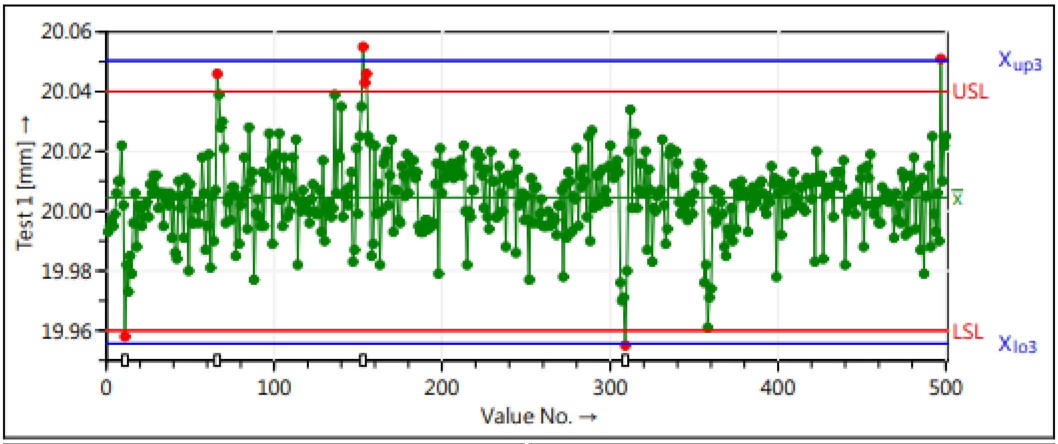
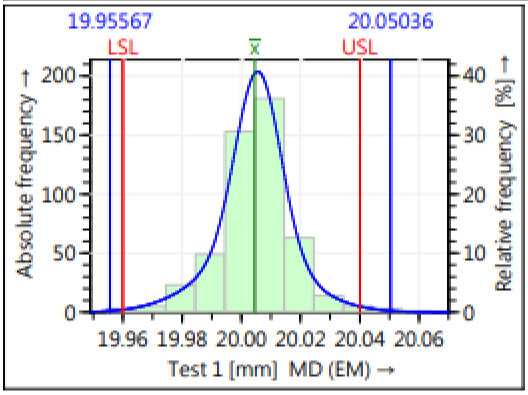
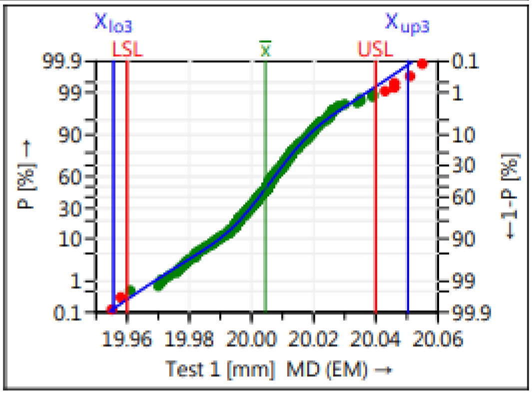
Op.Name	NN	Evaluation	from 07/05/1992 13:43:08	to	07/05/1992 14:21:02
Part no.	1	OP no.		Drw.No.	
Part descr.	Assembly #1			Mach.Descr.	Machining & Assembly Cell

Char.No.	1	Char.Descr.	Test 1				
Char.Class	critical	Calc.Tol.	0.080	USL	20.040	Subgr.size	5
Nom.val.	20.000	Unit	mm	LSL	19.960	Subgr.type	fixed
Char. Remark	correct indication of out of control conditions (xbar/s chart)						







Distribution	=	Mixed distribution (EM)	
Calculation method		$M_{2,1}$ Percentile (0.135%-50%-99.865%)	
Potential Performance index	P_p	0.79 □ **0.84** □ 0.90	0 1.33
Critical performance index	P_{pk}	0.72 □ **0.77** □ 0.83	0 1.33

The requirements were not met (P_p,P_{pk},LV)

Demand Potential Performance index	$P_{p\ target}$	1.33
Demand Critical performance index	$P_{pk\ target}$	1.33

Q-DAS Process Capability (04/2022)