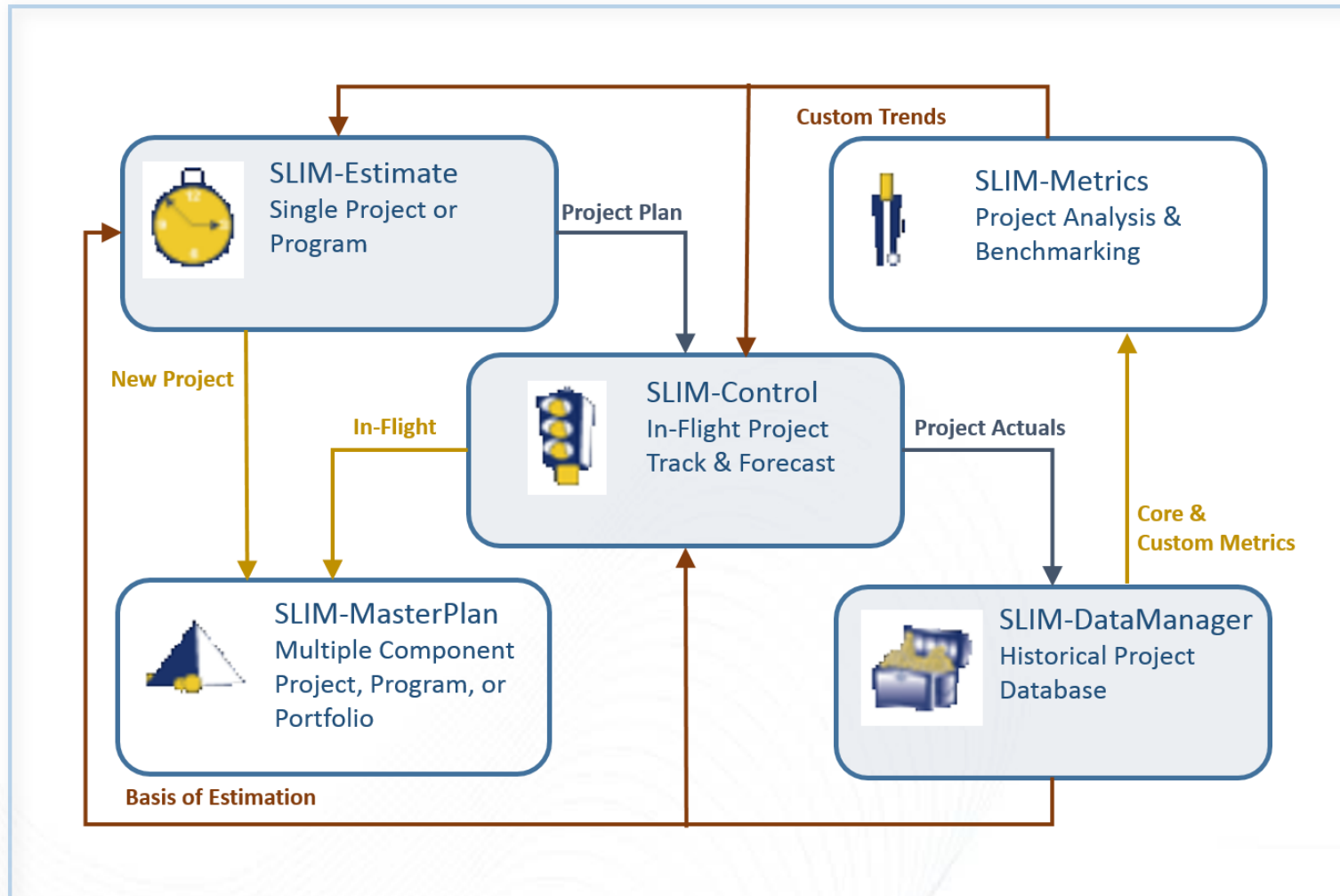
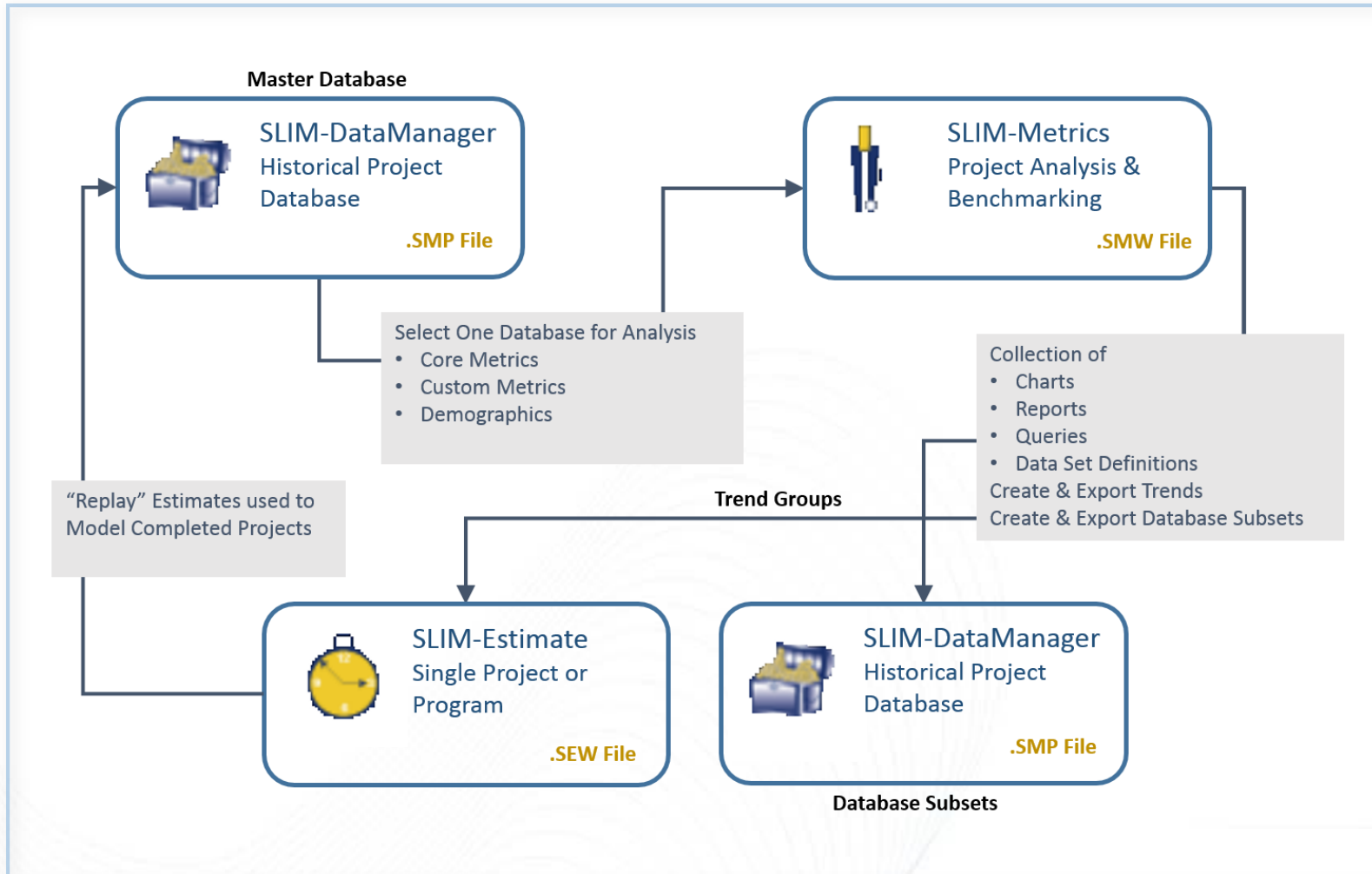




The Intelligence behind
Successful Software
Projects

What's New in SLIM-SUITE 9.0





- Simplify and clarify data entry, UI
- Make it easier to collect/display/analyze data in SLIM-DataManager and SLIM-Metrics
- Database management/maintenance
- Improve quality/accuracy of sizing data in QSM Database
- Better Management of Queries/DSD in SLIM-Metrics

- SLIM-DataManager
 - Keyword Management
 - Multiple Custom View Layouts
 - Sizing Detail Visible
 - Database Validation
- SLIM-Metrics
 - Data Set Definitions and Query Conditions
 - Median Value on Charts
 - View Multi-Select Metrics (Keywords)
- Multiple Apps and API

Evolution of a Feature 8.2 Keywords

Version 8.2 (early implementation):

Keywords typed in by hand

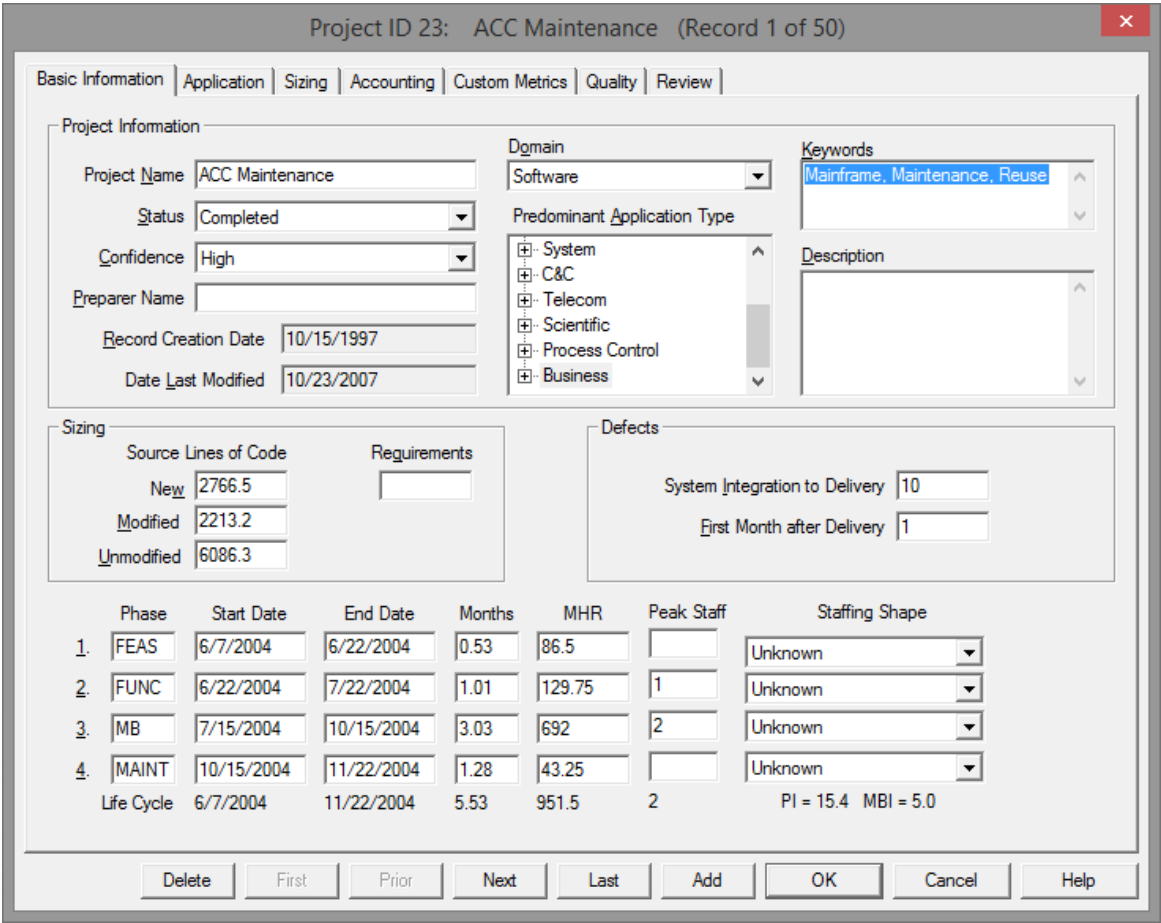
Data entry is time consuming, error prone

Can't see/manage all keywords in database (keywords created at project level)

Can't globally reorder keywords (WYSIWYG)

Can't display keywords on project list

Keywords lost during data exchange with SLIM-WebServices



Version 9.0 (refined):

Easily tag projects by checking a box!

Define, manage, reorder master keyword list for entire database

On import, keyword lists merged

Display keywords on project list, SLIM-Metrics reports

Keywords will be preserved during data exchange with SLIM-WebServices

Project ID 23: ACC Maintenance (Record 23 of 50)

Basic Information | Application | Sizing | Accounting | Custom Metrics | Quality | Review

Project Information

Project Name: ACC Maintenance
Status: Completed
Confidence: High
Preparer Name:
Record Creation Date: 10/15/1997
Date Last Modified: 10/8/2014

Domain: Software
Description:
Keywords: Mainframe, Maintenance, Reuse

Predominant Application Type

- System
- C&C
- Telecom
- Scientific
- Process Control
- Business

Sizing

New: 2767
Modified: 2213
Unmodified: 6086

Primary Function Unit: * Base Size Unit (SLOC)
Gearing Factor:

	Phase	Start Date	End Date	Months
1.	FEAS	6/7/2012	6/22/2012	0.53
2.	FUNC	6/22/2012	7/22/2012	1.01
3.	MB	7/15/2012	10/15/2012	3.03
4.	MAINT	10/15/2012	11/22/2012	1.28
	Life Cycle	6/7/2012	11/22/2012	5.53

Buttons: Delete, First, Prior, Next

Select Keywords

- Fiber Optics
- FP Sizing
- Mainframe
- Maintenance
- Reuse
- Web
- ISDN
- VISA

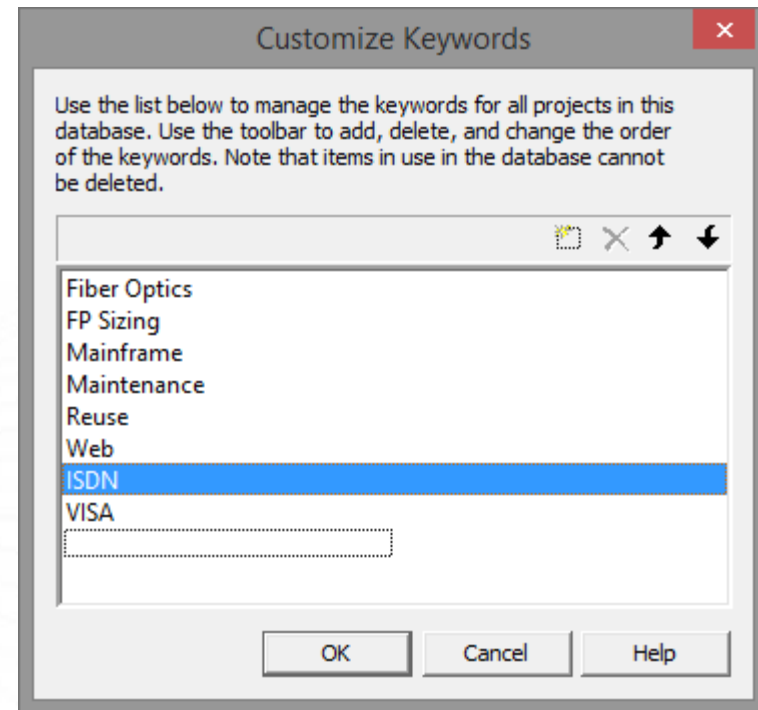
Buttons: OK, Cancel, Help, Customize Keywords...

Define keywords at database level,
check/uncheck them at project level

Easily reorder items (order preserved on
project list view and reports in SLIM-
DataManager and SLIM-Metrics)

Edit existing keywords (update/correct
keyword names globally)

Delete unused, deprecated keywords



Display Keywords

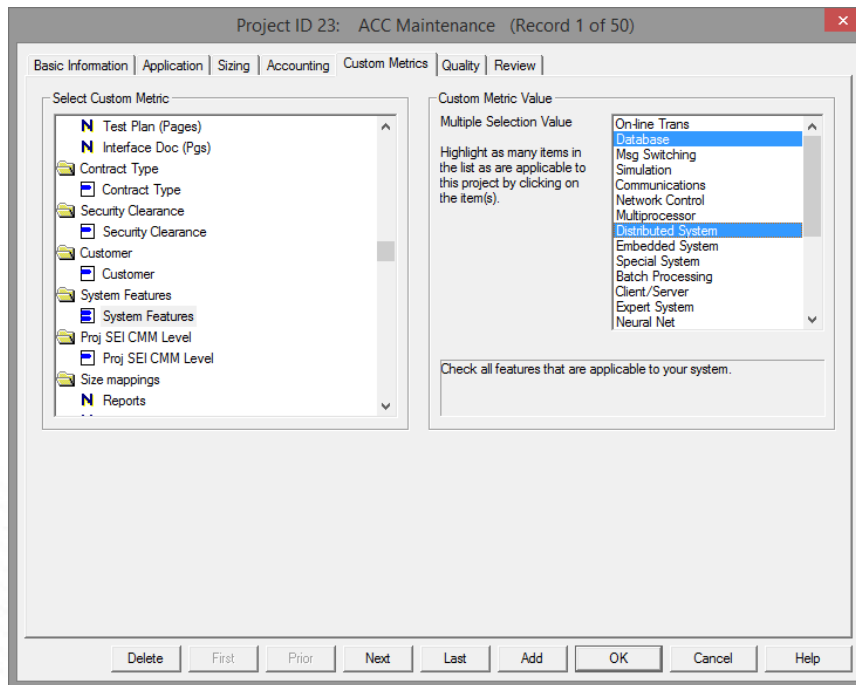
The Intelligence behind Successful Software Projects

The screenshot shows a software application window titled "SW-Metrics Demo.smp* - SLIM-DataManager". The window contains a menu bar (File, View, DataManager, Tools, Help) and a toolbar with icons for file operations and navigation. Below the toolbar is a data grid with the following columns: I., Project Name, FOC ..., Status, Confid..., App Type, App Subty..., Keywords, PI, MBI, Effecti..., and # of R... The grid contains 25 rows of data. A callout box with a white background and blue text is overlaid on the grid, pointing to the "Mainframe" keyword in the 23rd row. The callout text reads: "When you reorder the Master List, new order is reflected on Project List grid and Database summary report as well as Keywords charts/reports in SLIM-Metrics." The 23rd row is highlighted in blue and contains the following data: 2, ACC Maintenance, 2012, Complete, High, Business, Human Respo, Reuse, Mainframe, Maintena, 15.4, 5.0, 4,980. The status bar at the bottom of the window displays "For Help, press F1" and "Record 23 of 50".

I.	Project Name	FOC ...	Status	Confid...	App Type	App Subty...	Keywords	PI	MBI	Effecti...	# of R...
1	Northeast Sys	2013	Complete	High	Telecom	Switches	Fiber Optics,VISA	15.7	0.3	483,100	250
2	Southeast Sys	2012	Complete	High	Telecom		Fiber Optics	9.4	2.6	84,740	
3	Ethernet Analysis	2012	Complete	High	Telecom			10.0	1.8	13,000	
4	PR Sys	2014	Complete	High	Telecom		Fiber Optics	17.4	0.3	95,000	
5	Pacific Sys	2014	Complete	High	Telecom	Switches	Fiber Optics	19.3	-1.3	552,350	
6	Mid-Atlantic Sys	2013	Complete	High	Telecom		Fiber Optics	17.3	-0.3	50,000	
7	Midwest Sys	2014	Complete	High	Telecom		Fiber Optics	19.9	-1.0	300,000	
8	Fiber						Fiber Optics	14.7	6.7	12,000	
9	Fiber						Fiber Optics	12.4	2.9	83,400	
1	Fiber						Fiber Optics	9.1	5.9	1,350	
1	ISDN						ISDN	13.2	3.9	68,400	
1	Fiber						Fiber Optics	17.2	3.5	27,000	
1	Graph							21.1	8.3	3,500	
1	File/F							16.8	4.2	12,356	
1	Fiber						Fiber Optics	16.8	6.7	20,000	
1	Fiber						Fiber Optics	11.9	7.5	7,500	
1	GGG F						l Mg	19.9	1.3	20,000	
1	Mutu						l Mg	10.0	3.6	5,000	
1	Req C							15.3	1.1	200,000	
2	Onlin						er Ca Web	16.1	3.1	22,596	
2	Benefits Package As	2012	Complete	High	Business	Human Respo		19.0	2.5	39,707	
2	Multi-Tasking Over	2012	Complete	High	Business		Mainframe	14.5	4.6	7,146	
2	ACC Maintenance	2012	Complete	High	Business		Reuse, Mainframe, Maintena	15.4	5.0	4,980	
2	HES/SYN System	2014	Complete	High	Business			12.4	1.5	26,880	

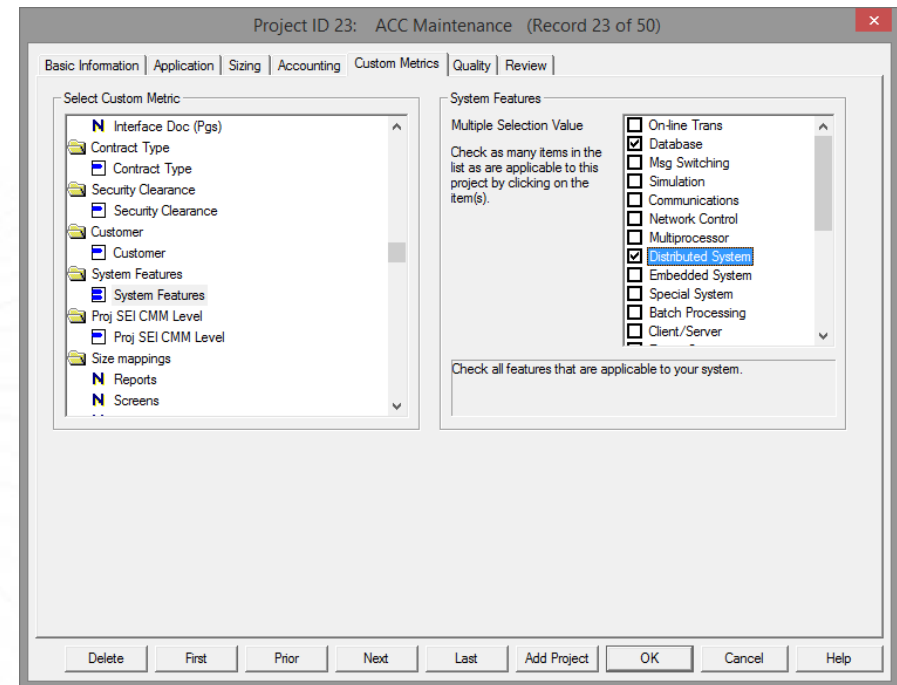
Version 8.2 – more steps required to tag project

Ctrl/Click multi-select items



Version 9.0 – fewer steps required

Check/uncheck multi-select items



Version 8.2

More clicks to add items,
can't reorder list

Metric Definition

Active

Metric Properties

Name: System Features
(Longer names may be truncated on charts.)

Unit Label (optional)

Description (optional)
Check all features that are applicable to your system.

Metric Type

Text
 Numeric
 Multi-Selection
 Single Selection

Metric Type Details

Add Edit Remove

Selection Values (Active items are checked)

- On-line Trans
- Database
- Msg Switching
- Simulation
- Communications
- Network Control
- Multiprocessor

OK Cancel Help

Can enter data, but can't see it on Project List or in SLIM-Metrics!

Version 9.0

Fewer clicks, list easily reordered

Metric Definition

Active

Metric Properties

Name: System Features
(Longer names may be truncated on

Unit Label (optional)

Description (optional)
Check all features that are applicable to your system.

Metric Type

Text
 Numeric
 Multi-Selection
 Single Selection

Selection Items

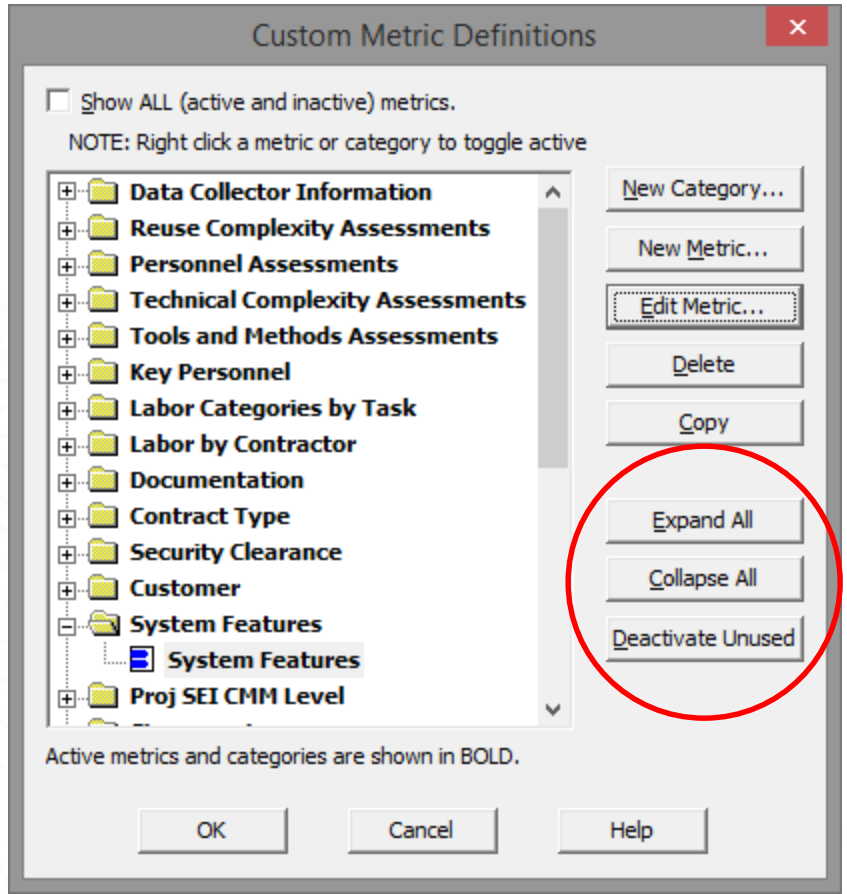
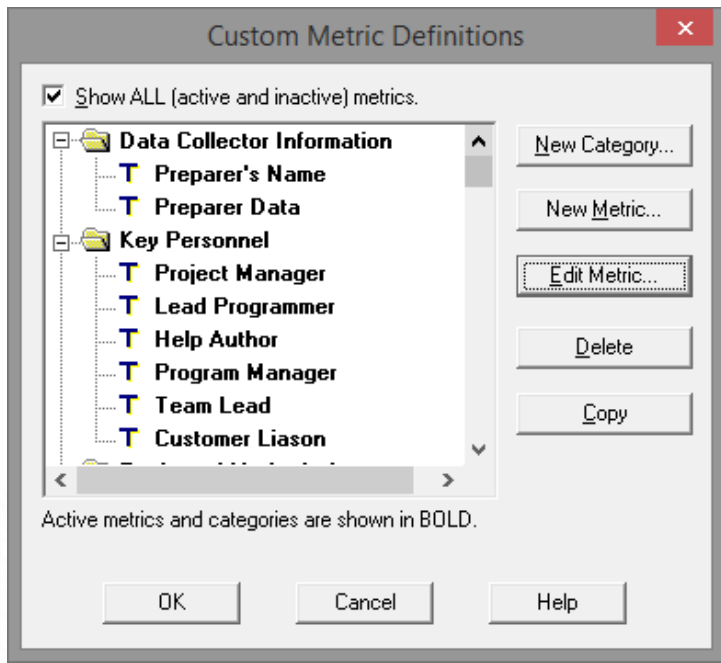
- On-line Trans
- Database
- Msg Switching
- Simulation
- Communications
- Network Control
- Multiprocessor

OK Cancel Help

Single, multi-select custom metrics now displayed on Project List view and in SLIM-Metrics!

Manage Custom Metrics List

- Expand/collapse/deactivate unused custom metrics/categories
- Easily manage long lists
- Drag and drop items to reorder the list!



Size Data – Seen vs. Unseen

....an act, a habit, an institution, a law, gives birth not only to an effect, but to a series of effects. Of these effects, the first only is immediate; it manifests itself simultaneously with its cause - it is seen. The others unfold in succession - they are not seen...

*Between a good and a bad economist this constitutes the whole difference - the **one takes account of the visible effect; the other takes account both of the effects which are seen, and also of those which it is necessary to foresee.***

- Frederick Bastiat

Seen:

Sizing		
	Function Points	Requirements
New	<input type="text" value="803"/>	<input type="text"/>
Modified	<input type="text"/>	
Unmodified	<input type="text"/>	

Function Unit

(maybe)

New/Modified/Unmodified

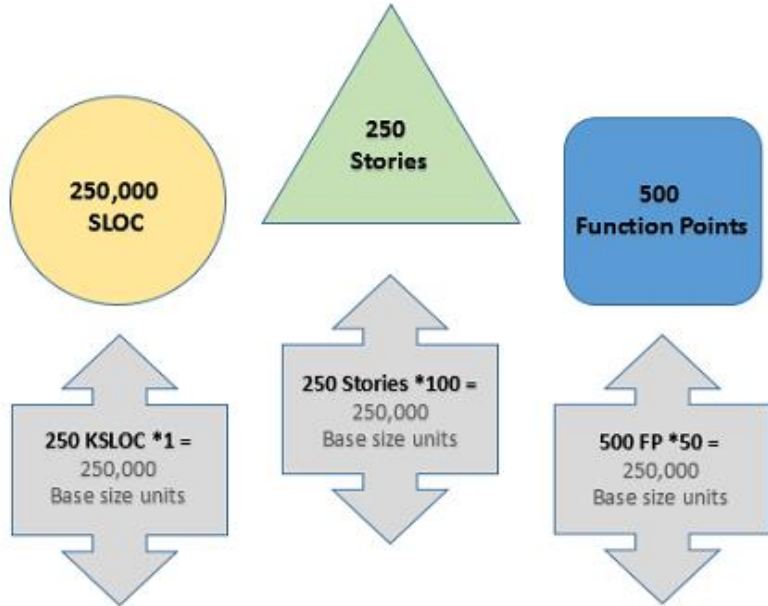
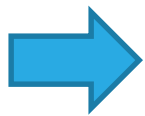
Hard to see/unseen:

(but they still matter!)

- Gearing Factor
- Effective vs. Total
- Base Size Unit
- Normalized Size Record
- Primary Size record
- Secondary Size records

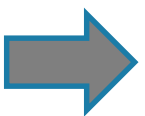
Primary Size Record

(What the user entered/
How user thinks of size)



Function unit * Gearing factor

Normalized Size Record



Translates Size to Equivalent Base
Size Units (SLOC, Ius)

Secondary Size Records –

not shown in DataManager, user can
capture additional size measures
and calculate gearing factors for
them

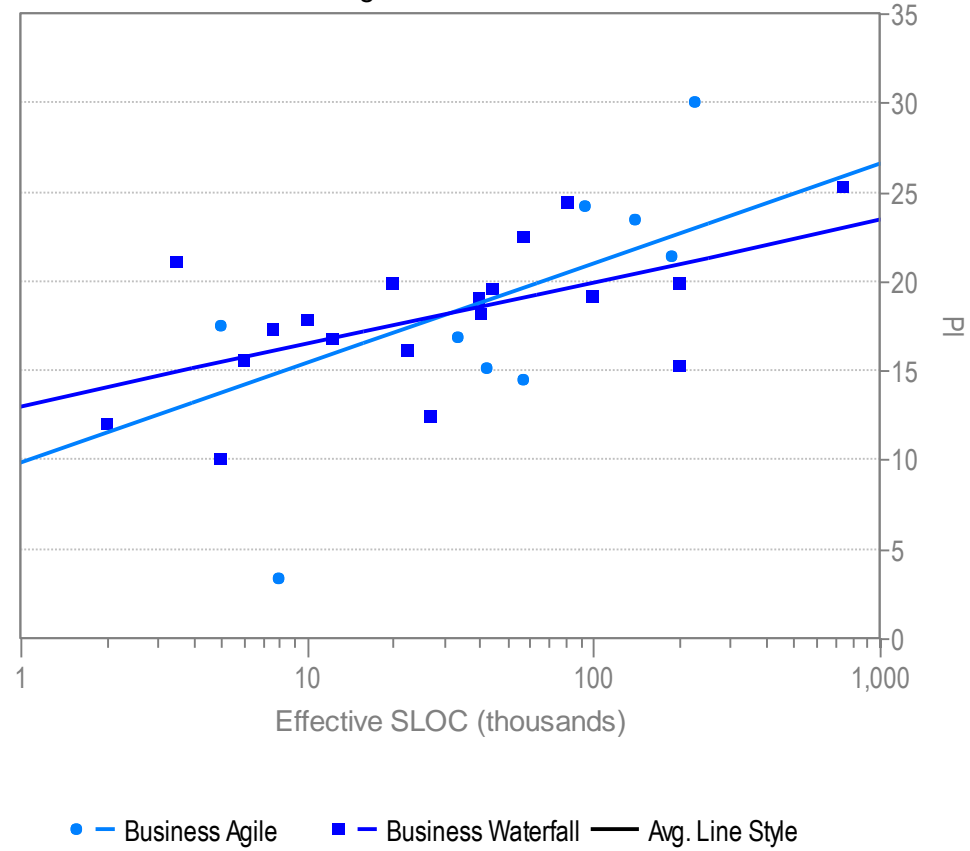
Did all these projects *really* capture size using SLOC?

Probably not – some counted SLOC, some Implementation Units, some Stories or Function Points.

Normalization to Base Size Units lets us compare projects sized in different function units on the same chart and measure their productivity on the same scale (PI).

TAKEAWAY:
“The Base Size Unit lends order and dignity to what would otherwise be a vulgar and unseemly brawl.”
- Frederick the Great

PI vs Effective SLOC
Business Agile vs Business Waterfall



Streamline/Clarify Sizing Inputs

The Intelligence behind
Successful Software Projects

*Base Size Unit (Acronym)

Version 8.2

Database Defaults

Summary

Organization: []
Division: []
Country: United States
Status: Completed

Domain: Software
Predominant App Type: Unknown, Microcode, Realtime, Avionic

Industry Sector: Unknown, Academic, Aerospace, Construction, Distribution, Military

Accounting

Effort Unit: MHR
Monetary unit: \$
Person hours per month: 173
Conversion Factor (\$): 1
Labor rate per hour: []

Operational Runtime Environment

Defect Categories: Cosmetic, Tolerable, Moderate, Serious, Critical

Phase Acronyms and Labels

1. FEAS Feasibility
2. FUNC Function
3. MB Main Building
4. MAINT Maintenance

Primary Size Unit

Function Unit: Source Lines of Code
Gearing Factor: 1

Alternative Name for Basic Unit of Work

Label: Source Lines of Code
Acronym: SLOC

Implementation Units
Instructions
Logical Input Statements
Logical Source Statements
Lowest Level Instruction Units
Object Properties
Source Instructions
Source Lines of Code
Source Statements
Source Units
Statements
Dev Primitives
<Add new entry>

Version 9.0

1

2

3

4

Primary Size Unit

* Base Size Unit (SLOC)

Gearing Factor: 1

Base Size Unit

Preferred Acronym: SLOC

Primary Size Unit

* Base Size Unit (SLOC)

* Base Size Unit (SLOC)

Actions (Acts)

BANGS (BANGS)

Business Processes (Bproc)

Business Requirements (Breqt)

Business Rules (Bus_R)

Bytes (Bytes)

Classes (Class)

CSC (CSC)

CSCI (CSCI)

CSU (CSCU)

Definitions (Defs)

Dialogs (Dlgs)

Entities (Ents)

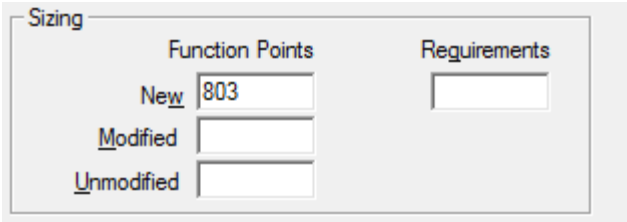
Operating System

DM Basic Info Tab

Entering Primary Size Records

The Intelligence behind
Successful Software Projects

Version 8.2



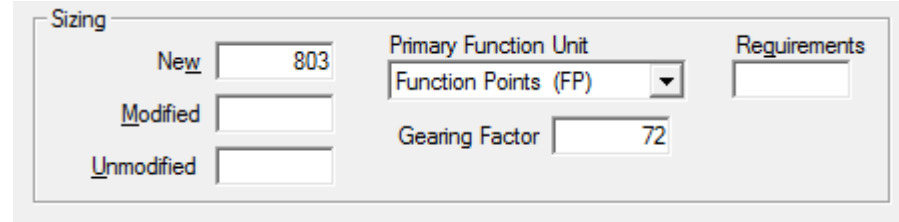
Change Function unit, gearing factor on sizing tab

Gearing factor not shown

Base Size Unit can have gearing factor > 1

No visual distinction between base size unit and larger/more abstract function units

Version 9.0

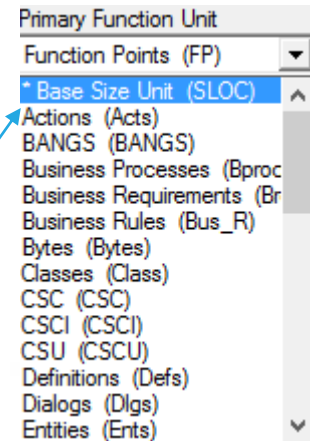


Edit/review all size inputs (function unit, gearing factor, new/modified/unmodified counts) in one place

Gearing factor is visible

Cannot edit gearing factor when sizing in Base Size units.

Asterisk, list position, “Base size unit” create visual distinction between base size unit and larger/more abstract function units



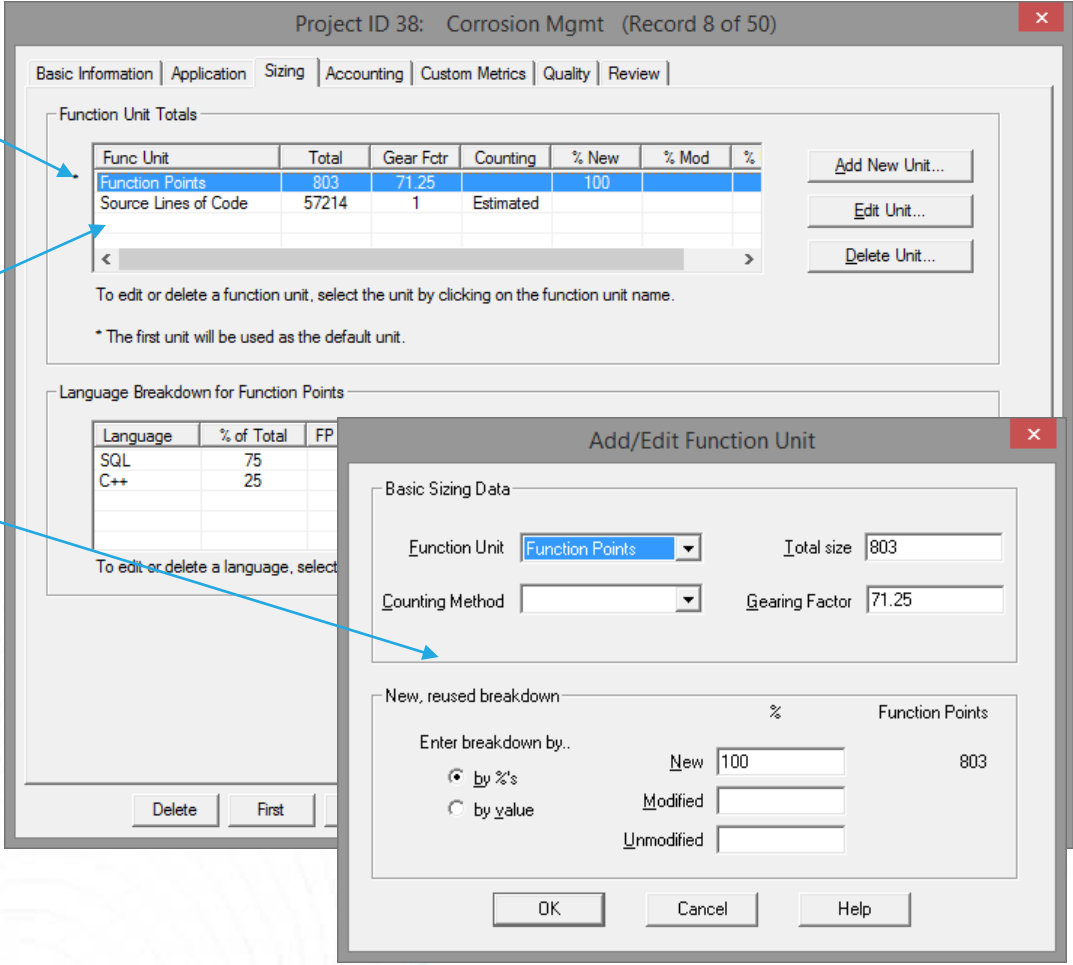
Version 8.2:

Mix of primary, secondary size records confusing

Normalized size record not visible (so users create unintended duplicates)

Must tunnel to create, edit size records

When primary size record changes, secondary records aren't recalculated



Version 9.0:

Primary, secondary size records clearly labeled

Normalized size record displayed (prevents unintended duplicates)

Create, edit size records in place (right click to add row)

Primary/secondary records kept in sync (changes to primary size record immediately update secondary size records)

The screenshot shows a software window titled "Project ID 38: Corrosion Mgmt (Record 38 of 50)". It has several tabs: "Basic Information", "Application", "Sizing", "Accounting", "Custom Metrics", "Quality", and "Review". The "Sizing" tab is active.

The "Primary Sizing" section contains a table with the following data:

	FP	SLOC
Effective:	803	57,213.8
Total:	803	57,213.8

Below the table, there is explanatory text: "The primary sizing data above reflects the total and effective size entered on the Basic Info tab. Optionally, use the Secondary Sizing grid to add other sizing data that maps to this primary data (either the effective or the total size). This data can be used to calculate system gearing factors that can be helpful in sizing future projects. If you choose to map your secondary sizing count to the total primary size, the effective value will be based on the same percentage breakout (new, modified, unmodified) as the primary unit. In the Language Breakout grid, enter the details about the languages used to develop this project."

The "Secondary Sizing" section has a header "Secondary Sizing" and a sub-header "To add or remove a secondary size record, right-click inside the grid below." It contains a table with the following columns: "Function Unit", "Count", "Count Maps To...", and "Calc Gearing Factor". The table is currently empty.

Below the Secondary Sizing section is the "Language Breakout" section, which also has a sub-header "To add or remove a language, right-click inside the grid below." It contains a table with the following data:

Language	% of Total	Language Type	FP Gear
SQL	75		
C++	25	Object-Oriented	

At the bottom of the window, there are several buttons: "Delete", "First", "Prior", "Next", "Last", "Add Project", "OK", "Cancel", and "Help".

1. Right-click to add row to grid
2. Choose Function unit
3. Enter Function unit count
4. Tell SLIM-DataManager whether count represents **Effective** (new, modified) or **Total** (new, modified, unmodified) size
5. Gearing factor calculated automatically (If count mapped to Effective, GF will NOT include modified code)

Project ID 38: Corrosion Mgmt (Record 38 of 50)

Basic Information | Application | Sizing | Accounting | Custom Metrics | Quality | Review

Primary Sizing

	FP	SLOC
Effective:	1,000	20,000
Total:	1,000	20,000

The primary sizing data above reflects the total and effective size entered on the Basic Info tab.

Optionally, use the Secondary Sizing grid to add other sizing data that maps to this primary data (either the effective or the total size). This data can be used to calculate system gearing factors that can be helpful in sizing future projects.

If you choose to map your secondary sizing count to the total primary size, the effective value will be based on the same percentage breakout (new, modified, unmodified) as the primary unit.

In the Language Breakout grid, enter the details about the languages used to develop this project.

Secondary Sizing

To add or remove a secondary size record, right-click inside the grid below.

Function Unit	Count	Count Maps To...	Calc Gearing Factor
Requirements	200	Effective Size	100 SLOC / Reqt

Language Breakout

To add or remove a language, right-click inside the grid below.

Language	% of Total	Language Type	FP Gear
SQL	75		
C++	25	Object-Oriented	

Delete First Prior Next Last Add Project OK Cancel Help

Multiple Stored View Layouts

The Intelligence behind Successful Software Projects

SW-Metrics Demo.smp* - SLIM-DataManager

File View DataManager Tools Help

Validation - Basic Info

I..	Project Name	FOC ...	Validation - Application	Keywords	PI	MBI	Effecti...	# of R...
1	Fiber Channel Phas	2014	Validation - Phase 1	Fiber Optics	16.8	6.7	20,000	
1	Fiber Optic Testing	2012	Validation - Phase 2	Fiber Optics	11.9	7.5	7,500	
1	GGs Reserves	2014	Validation - Phase 3		19.9	1.3	20,000	
1	Mutual Fund Mgmt	2013	Validation - Phase 4		10.0	3.6	5,000	
1	Req Control	2012	Validation - Lifecycle Data		15.3	1.1	200,000	
2	Online Customer M	2014	Validation - Function Unit	Web	16.1	3.1	22,596	
2	Benefits Package As	2012	Complete Moderati	Human Reso	19.0	2.5	39,707	
2	Multi-Tasking Over	2012	Complete High	Mainframe	14.5	4.6	7,146	
2	ACC Maintenance	2012	Complete High	Reuse,Mainframe,Maintena	15.4	5.0	4,980	
2	HES/SYN System	2014	Complete High		12.4	1.5	26,880	
2	Database Entry Han	2012	Complete High		12.0	4.6	2,000	
2	Report Writer Engin	2012	Complete High	Mainframe	16.2	-0.7	94,711	
2	Database Support	2012	Complete High		10.5	4.3	5,325	
2	PGA	2013	Complete High		15.1	1.5	42,336	
2	USTA	2013	Complete High		16.9	0.3	95,187	
3	Rental Mgmt	2012	Complete High	Sales	15.6	-0.3	25,000	
3	Line Collection	2012	Complete High		15.5	2.8	6,000	
3	GRD Regulations	2012	Complete High	FP Sizing	15.6	1.5	38,001	
3	Invoices Mgmt	2014	Complete High	Sales	24.4	0.8	80,928	
3	Customer Billing	2014	Complete High	Billing	25.2	0.0	750,000	
3	Excavation Systems	2013	Complete High	FP Sizing	18.2	1.4	40,667	
3	Lines and Valves	2012	Complete High	FP Sizing	16.3	2.4	23,810	
3	Direct Billing	2013	Complete High	Business	17.3	5.0	7,620	
3	Corrosion Mgmt	2013	Complete High	Business	17.1	4.1	20,000	

For Help, press F1

DM 8.2

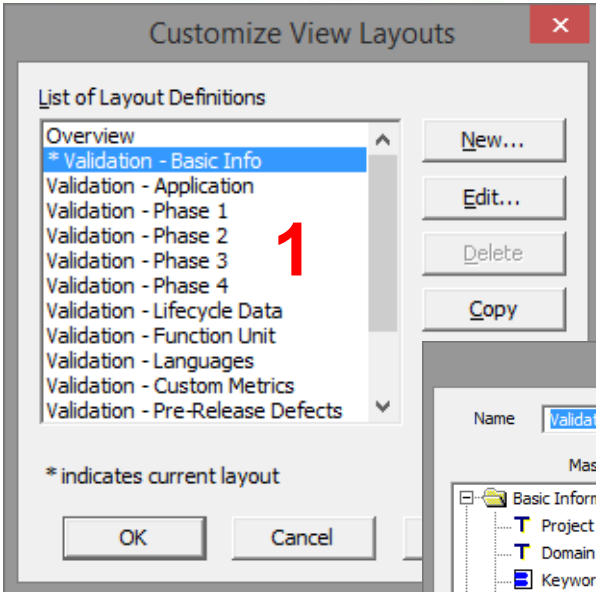
- Create/Save 1 Project List view layout per database
 - Up to 15 metrics
- New files have 1 preconfigured view layout
- Display on Project Summary report
- Export Project Summary report to MS Office

DM 9.0

- Create/Save/Edit/ Reload multiple Project List view layouts per database
 - Up to 15 metrics
- New files have 14 Preconfigured view layouts
- Import View Layouts from other DataManager files
- Display on Database Summary report
- Export Database Summary report to MS Office

Create, Edit, Import Stored View Layouts

The Intelligence behind Successful Software Projects



Customize View Layouts

List of Layout Definitions

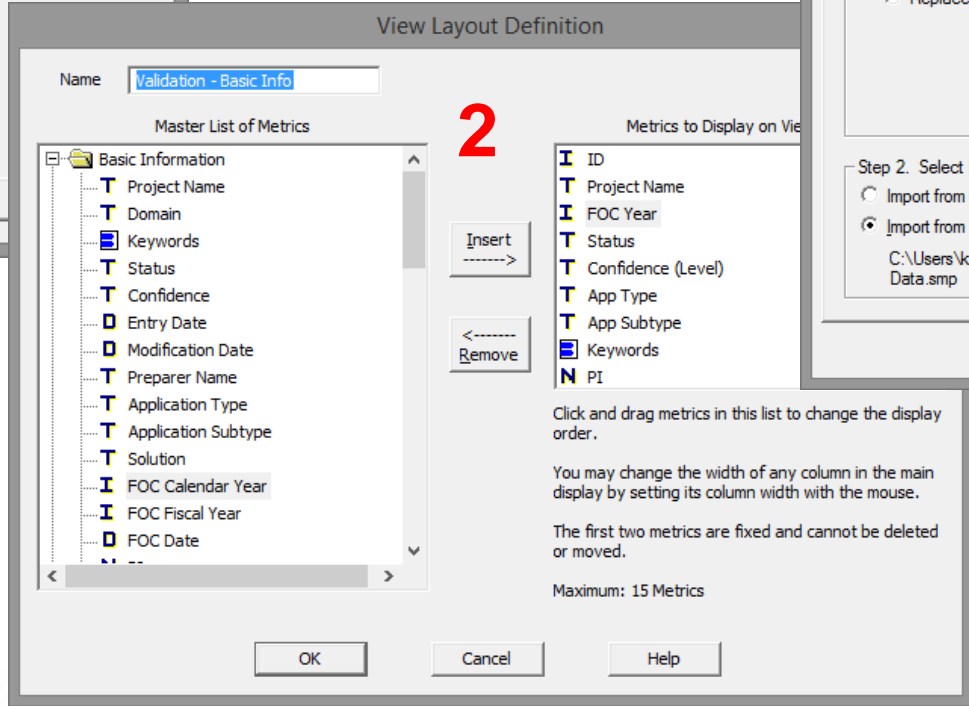
- Overview
- * Validation - Basic Info
- Validation - Application
- Validation - Phase 1
- Validation - Phase 2
- Validation - Phase 3
- Validation - Phase 4
- Validation - Lifecycle Data
- Validation - Function Unit
- Validation - Languages
- Validation - Custom Metrics
- Validation - Pre-Release Defects

New... Edit... Delete Copy

* indicates current layout

OK Cancel

1



View Layout Definition

Name: Validation - Basic Info

Master List of Metrics

- Basic Information
 - Project Name
 - Domain
 - Keywords
 - Status
 - Confidence
 - Entry Date
 - Modification Date
 - Preparer Name
 - Application Type
 - Application Subtype
 - Solution
 - FOC Calendar Year
 - FOC Fiscal Year
 - FOC Date

Insert Remove

Metrics to Display on View

- ID
- Project Name
- FOC Year
- Status
- Confidence (Level)
- App Type
- App Subtype
- Keywords
- PI

Click and drag metrics in this list to change the display order.

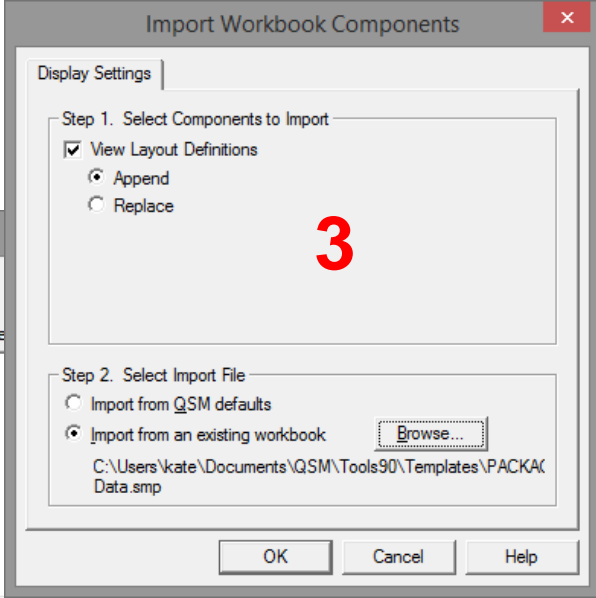
You may change the width of any column in the main display by setting its column width with the mouse.

The first two metrics are fixed and cannot be deleted or moved.

Maximum: 15 Metrics

OK Cancel Help

2



Import Workbook Components

Display Settings

Step 1. Select Components to Import

- View Layout Definitions
 - Append
 - Replace

Step 2. Select Import File

- Import from QSM defaults
- Import from an existing workbook

Browse...

C:\Users\kate\Documents\QSM\Tools90\Templates\PACKAC Data.smp

OK Cancel Help

3

Database Validation – 8.2 vs. 9.0

The Intelligence behind Successful Software Projects

SW-Metrics Demo.smp* - SLIM-DataManager

File View DataManager Tools Help

ID	Project Na...	Organi...	Ap...	FOC ...	PI	Effec...	MB ...	MB ...
23	ACC Mainte...	Binary S...	Busir	5/2004	5.4	4,980	3.03	1.32
45	ACS Phase II	National	Busir	5/2005	6.8	33,617	5.53	13.74
44	Benchmark F	National	Busir	5/2005	1.4	87,860	8.05	17.52
40	Benchmark F	National	Busir	5/2006	9.9	100,000	11.02	12.75
49	Benchmark F	National	Busir	5/2005	7.8	10,000	3.05	1.80
48	Benchmark F	National	Busir	5/2005	4.2	92,809	4.50	5.00
21	Benefits Pack	Binary S...	Busir	5/2004	9.0	39,707	6.52	2.30
38	Corrosion M...	Global E...	Busir	5/2005	2.5	57,214	5.03	2.21
34	Customer Bil	Global E...	Busir	5/2006	5.2	150,000	15.53	2.58
25	Database Ent	Binary S...	Busir	5/2004			3.07	0.98
27	Database Sup	Binary S...	Busir	5/2004	0.5	5,325	5.53	2.33
37	Direct Billing	Global E...	Busir	5/2005	7.3	7,680	2.4	1.1
3	Ethernet Ana	FiberTel	Telec	5/2004	0.0	13,000	11.4	1.1
35	Excavation S...	Global E...	Busir	5/2005	8.2	40,667	8.03	1.60
42	Exchange Sys	National	Busir	1/2005	3.3	8,000	12.00	33.33
10	Fiber Channe	Telecom	Telec	5/2005	9.1	1,350	3.05	2.36
12	Fiber Channe	Telecom	Telec	5/2006	7.2	27,000	6.02	2.99
15	Fiber Channe	Telecom	Busir	5/2006	6.8	20,000	4.03	8.81
9	Fiber Channe	Telecom	Telec	5/2006	2.4	83,400	17.05	24.22
8	Fiber Optic P	Telecom	Telec	5/2004	4.7	12,000	4.02	7.59
16	Fiber Optic T	Telecom	Telec	5/2004	1.9	7,500	4.05	12.72
14	File/Font Cor	Binary S...	Busir	5/2006	6.8	12,356	4.21	1.43
17	GGs Reserves	High Str	Busir	1/2006	9.9	20,000	5.00	0.32
32	GRD Regulati	Global E...	Busir	5/2004	5.6	38,000	10.03	2.56
13	Graphics Eng	Binary S...	Busir	5/2006	1.1	3,500	1.05	1.50
24	HES/SYN Sys	Binary S...	Busir	1/2006	2.4	26,881	12.00	3.00
11	ISDN Comps	Telecom	Telec	5/2005	3.2	68,400	13.03	27.24
33	Invoices Mgr	Global E...	Busir	5/2006	4.9	11,088	6.03	0.67
31	Line Collecti	Global E...	Busir	5/2004	5.5	6,000	4.02	0.50

Total is a required value. (Effective is a required value.)

For Help, press F1 Record 15 of 50

SW-Metrics Demo - withbuiltin_errors.smp - SLIM-DataMa...

File View DataManager Tools Help

Overview

Database Validation Report

ID	Project	Error Detail
1	Phase end before start	Start/end dates for phase 1 are not reasonable. Start/end dates for phase 2 are not reasonable. Start/end dates for phase 3 are not reasonable. Start/end dates for phase 4 are not reasonable. Start date for phase 4 is before the start date of an earlier Start date for phase 4 is before the end date of phase 3.
2	Duration inconsist w/dates	The duration for phase 1 is not consistent with the start/en The duration for phase 2 is not consistent with the start/en The duration for phase 3 is not consistent with the start/en The duration for phase 4 is not consistent with the start/en Start date for phase 4 is before the start date of an earlier Start date for phase 4 is before the end date of phase 3.
3	StDt for phase b4 start of earlier ph	The duration for phase 1 is not consistent with the start/en The duration for phase 2 is not consistent with the start/en Start date for phase 2 is before the start date of an earlier The duration for phase 3 is not consistent with the start/en Start date for phase 3 is before the start date of an earlier
4	Ph4 start < Ph3 end	The duration for phase 4 is not consistent with the start/en Start date for phase 4 is before the end date of phase 3.
5	Defect % > 100%	dtblProjectDetail >>> Sum of defect percentages is greate
6	Appl % > 100%	Telecom % must be between 0.00 and 100.00 or null (valu Sum of application percentage values is greater than 100.
7	Primary Apptype doesn_t match app%	The application type with the highest percentage value (Bu

SW-Metrics Demo - withbuiltin_errors.smp

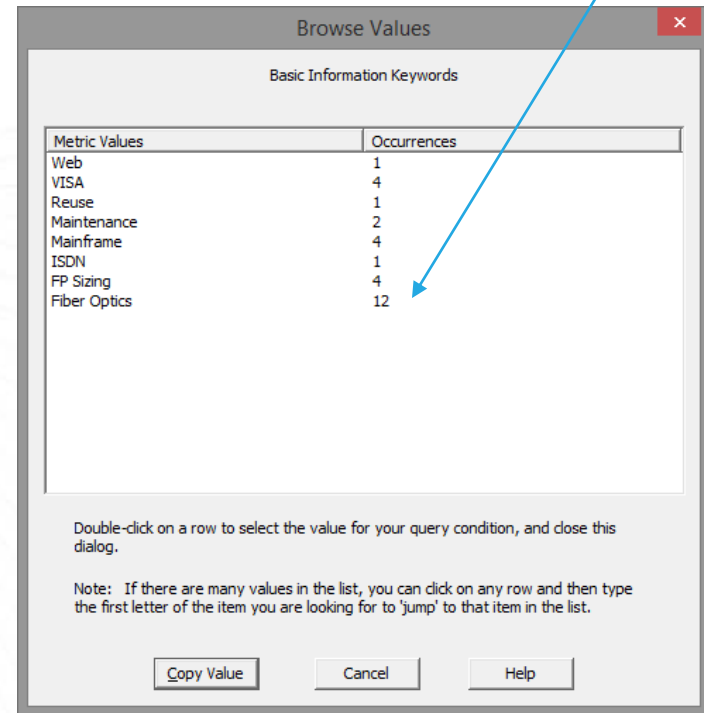
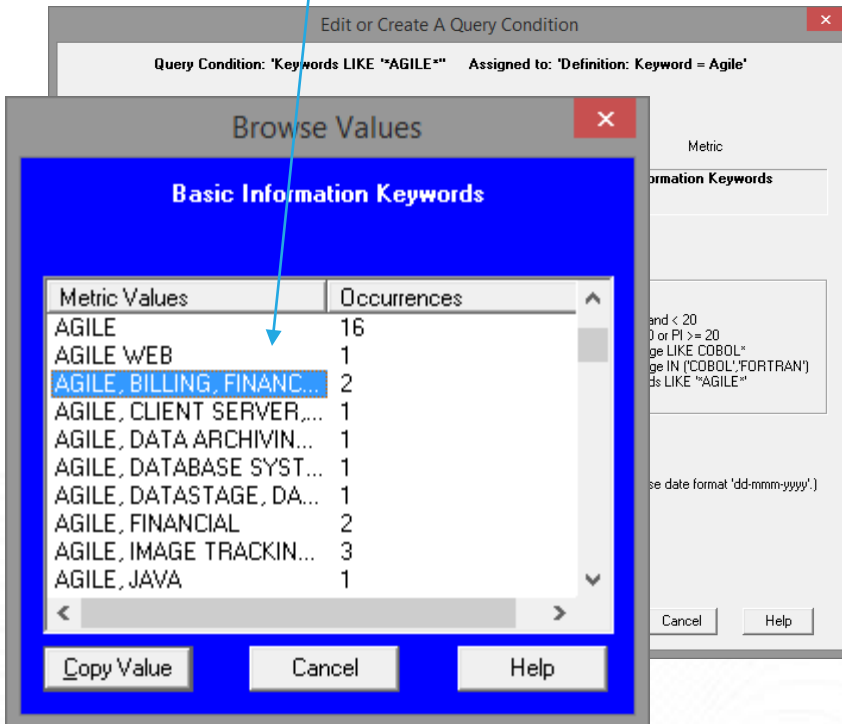
Record 1 of 50

Better Keyword Querying (Select Single Keywords vs. Strings)

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Version 8.2 – Keywords stored as text strings.

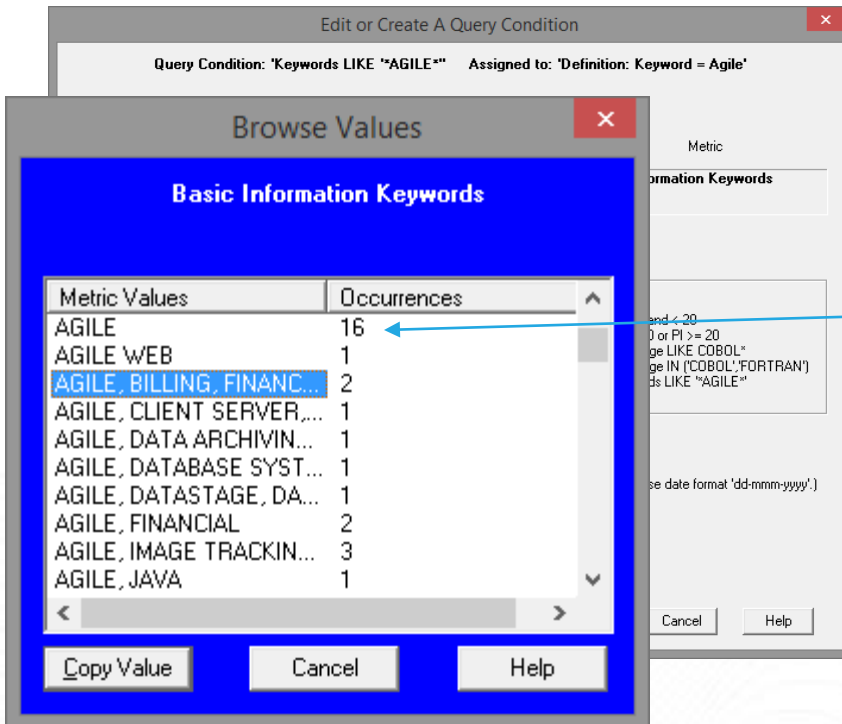
Version 9.0 – Keywords stored singly. Can select just the keyword you want to see.



Version 8.2 – Keywords stored as text strings.

Because keywords were stored as text strings, you could query the database and find out how many projects had the “AGILE” keyword (Keyword LIKE *AGILE*).

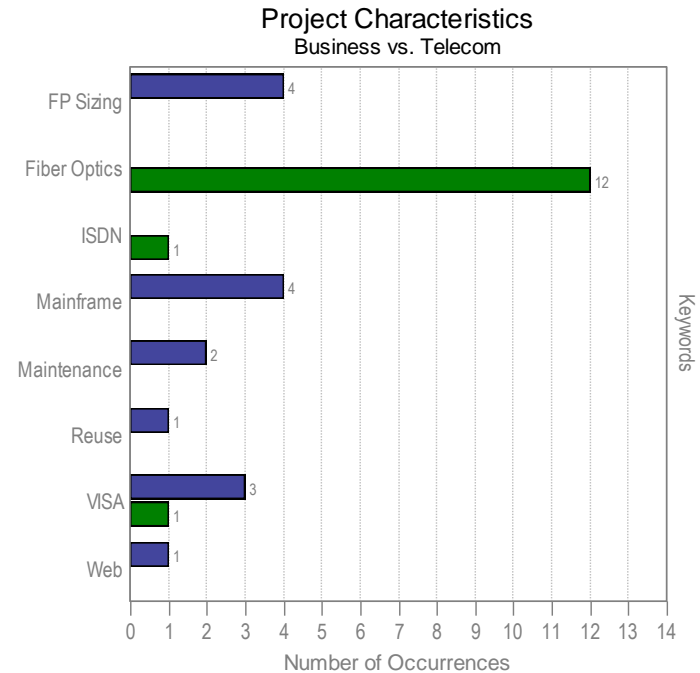
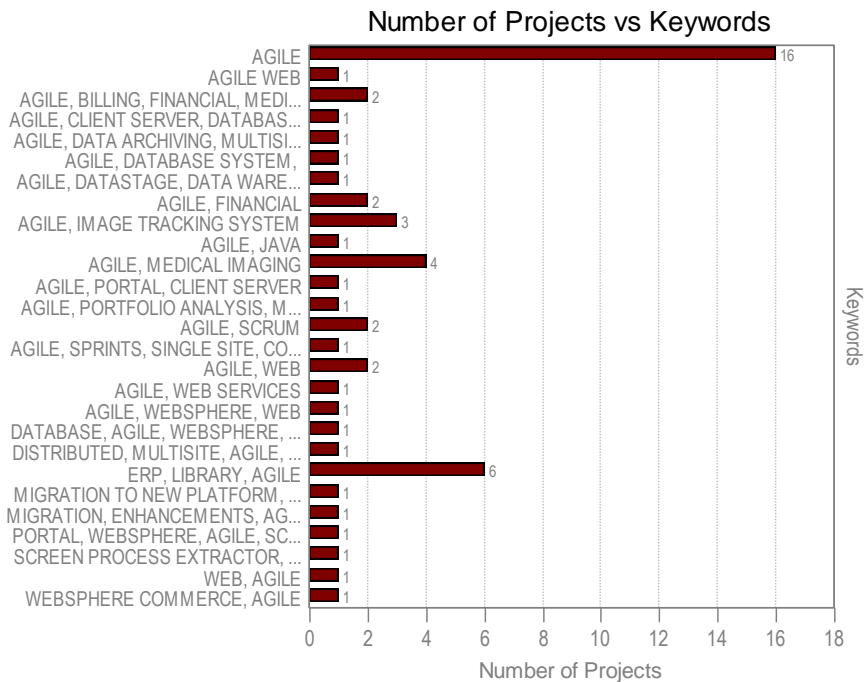
But there was no easy way to display the results on charts or reports in SLIM-Metrics (see next slide).



Better Keyword Handling (Display Single Keywords vs. Strings)

Version 8.2 – Bar charts display **entire keyword string**. # of occurrences applied to entire string.

Version 9.0 – Bar charts/reports **list keywords singly**, show # of occurrences for each keyword.



■ Business Systems ■ Telecom Systems

Better Handling of Multi-Select Metrics (Querying)

Version 8.2 – Users could enter Multi-Select custom metrics in SLIM-DataManager, but could not use them in queries in SLIM-Metrics.

Version 9.0 – Users can query on Multi-Select custom metrics and display them in SLIM-Metrics.

1. Select metric for condition, then press Choose:

Metric
Custom (Labor by Contractor)
Custom (Documentation)
Custom (Contract Type)
Custom (Security Clearance)
Custom (Customer)
Custom (System Features)
System Features
Custom (Proj SEI CMM Level)
Custom (Size mappings)

Examples:

- Simple: PI > 10
- Range: PI > 10 and < 20
- Outliers: PI <= 10 or PI >= 20
- Text: Language LIKE COBOL*

SLIM-Metrics

This operation is not available for memo or multi-selection metrics.

OK

1. Select metric for condition, then press Choose:

Metric
Custom (Tools and Methods Assessment)
Custom (Key Personnel)
Custom (Labor Categories by Task)
Custom (Labor by Contractor)
Custom (Documentation)
Custom (Contract Type)
Custom (Security Clearance)
Custom (Customer)
Custom (System Features)
System Features
Custom (Proj SEI CMM Level)

2. Select relationship: = v1

3. Supply value(s): v1: 0

4. Name condition: Auto: System Fea Manual:

Browse Values

Metric Values	Occurrences
Simulation	1
On-line Trans	32
Network Control	1
Multiprocessor	1
Msg Switching	2
Distributed System	12
Database	32
Communications	11

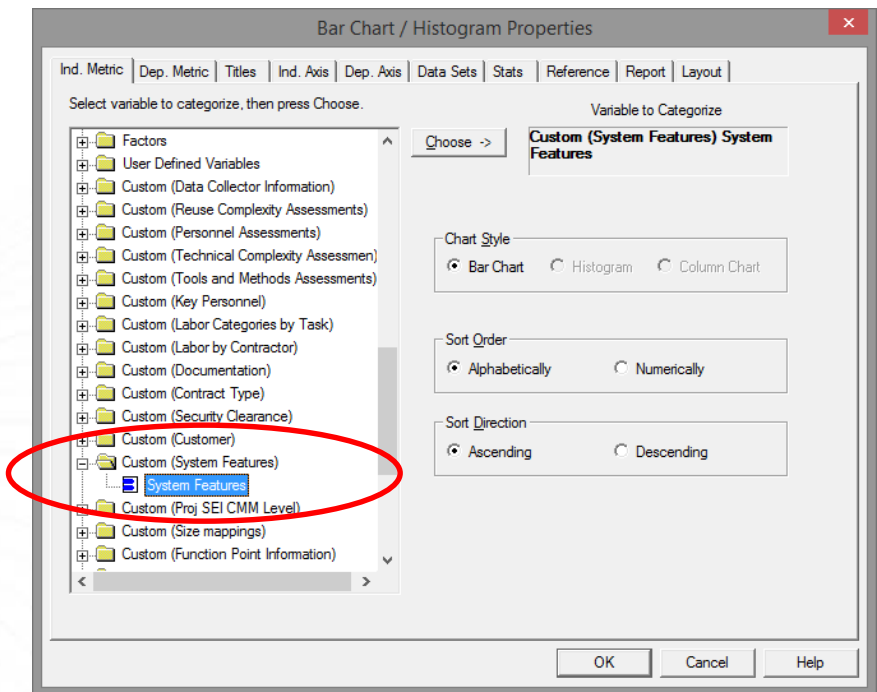
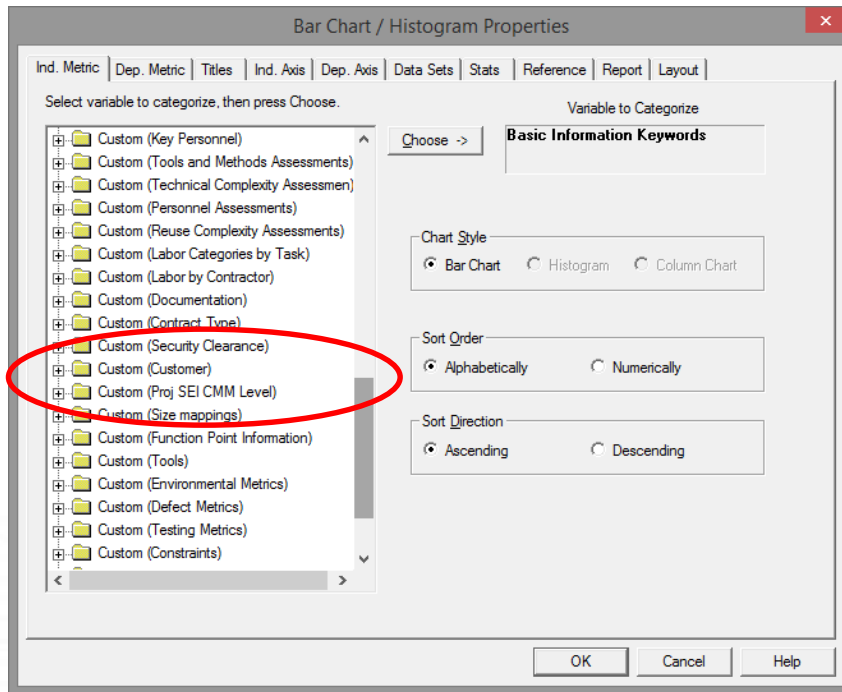
Double-click on a row to select the value for your query condition, and close this dialog.

Note: If there are many values in the list, you can click on any row and then type the first letter of the item you are looking for to 'jump' to that item in the list.

Copy Value Cancel Help

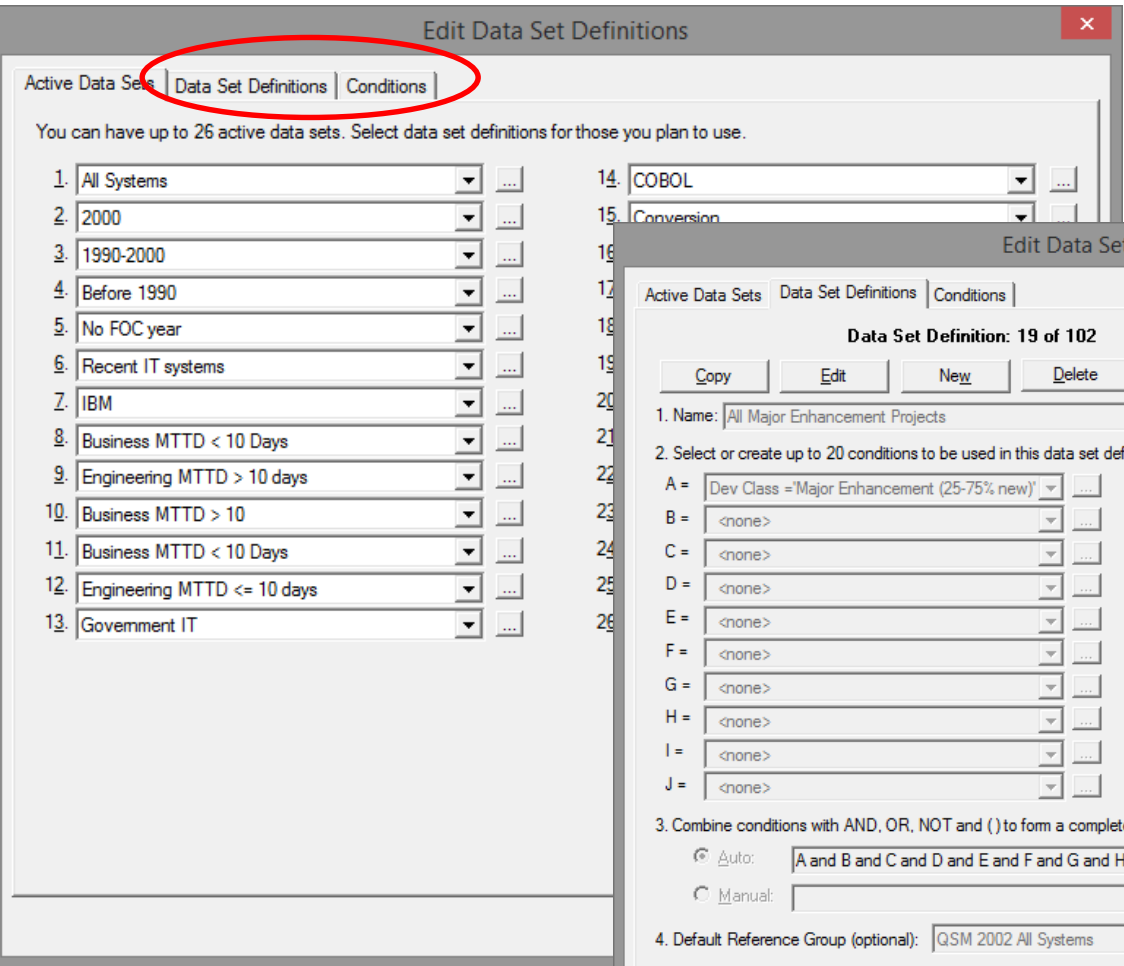
Version 8.2 – Multi-select custom metrics not available for display on charts/reports.

Version 9.0 – Can display on bar charts/reports in SLIM-Metrics

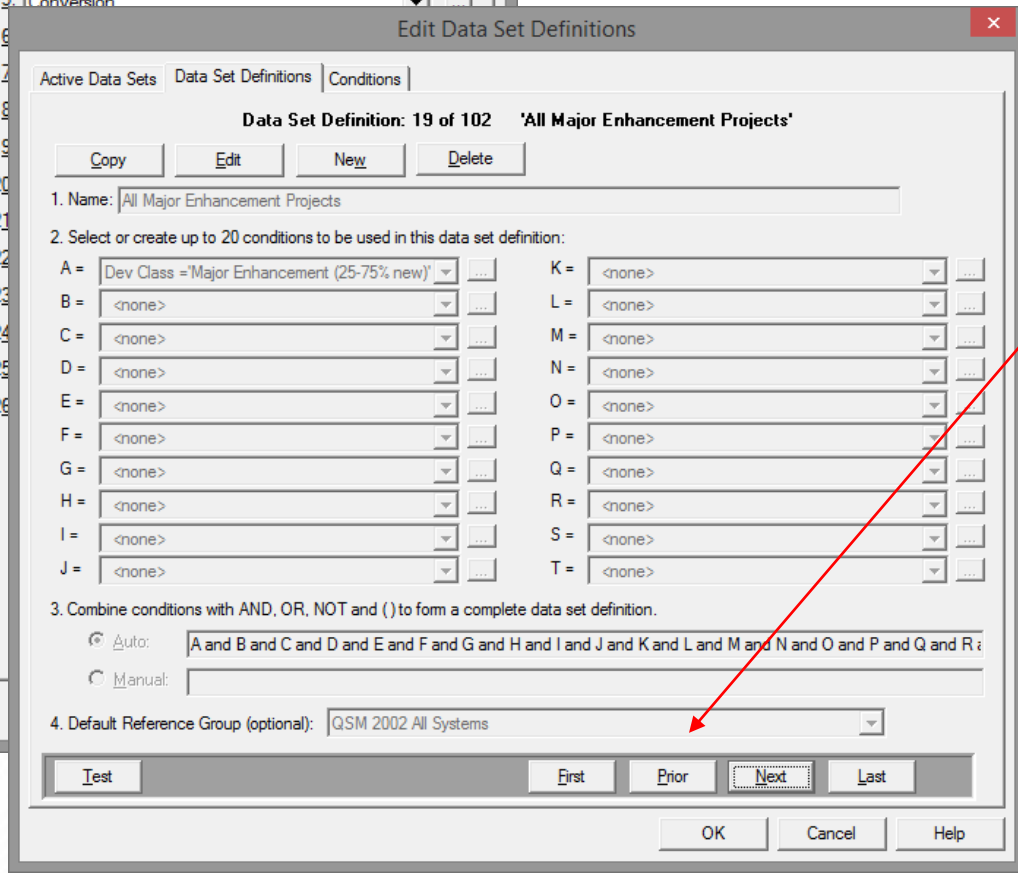


Managing Data Set Definitions and Query Conditions

The Intelligence behind Successful Software Projects



Version 8.2: Can only see 1 DSD or QC at a time. No way to review all existing items.



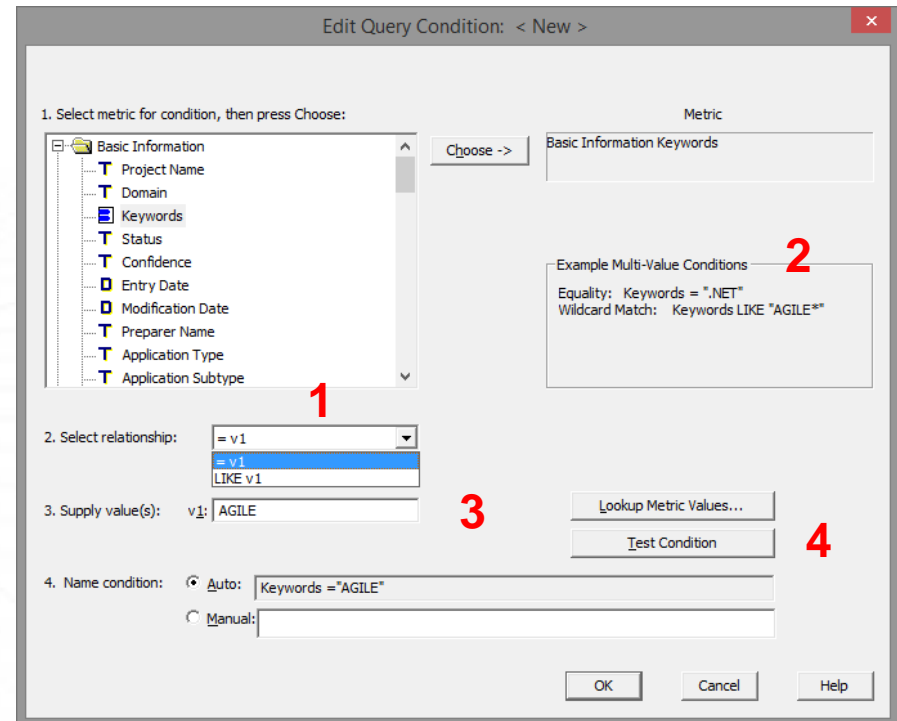
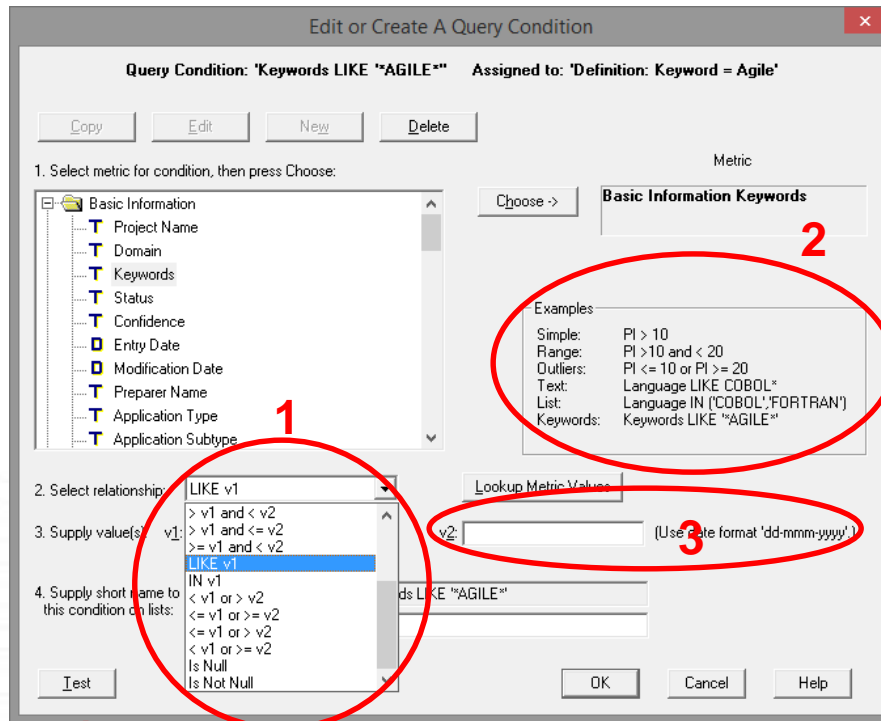
Page through items one by one using buttons at bottom of dialog.

Making it Easier to Create Query Conditions

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Version 8.2: UI presents static/generic options that don't always apply to the metric you're working with.

Version 9.0: Streamlined, context-sensitive UI.



4

Version 9.0: Easily edit/review all dataset definitions in current database.

Data Set Definitions and Query Conditions

Data Sets | Query Conditions

List of Data Set Definitions

ID	Data Set	# Projects Matched	# Charts/Reports Use...	Default Reference Set
1	ALL Systems	50	71	QSM All Systems
2	Binary Systems Projects	10	10	QSM All Systems
3	FiberTel Projects	7	10	QSM Telecom
4	High Street Financial ...	4	36	QSM Business
5	National Banking Proj...	13	32	QSM Business
6	Telecom Gen Projects	7	8	QSM Telecom
7	Global Energy Projects	9	12	QSM Scientific
8	Business Systems	36	157	QSM Business
9	Telecom Systems	14	138	QSM Telecom
10	Business Agile	24	47	QSM Business AGILE
11	Business Waterfall	12	7	QSM Business
12	Telecom Agile	10	7	QSM Telecom
13	Telecom Waterfall	4	7	QSM Telecom

Definition Detail for < ALL Systems >

Project Name Is Not Null

OK Cancel Apply Help

1. # of projects matched.
2. Is DSD in use? How often?
3. Associated default trend group.
4. Review query conditions that make up selected DSD.
5. Edit/New/Copy/Delete buttons
6. Block select/delete unused DSC

Version 9.0: Easily edit/review all query conditions in current workbook.

Data Set Definitions and Query Conditions

Data Sets | Query Conditions

List of Query Conditions

Query Condition	# Data Sets Used by	# Records Matched
App Type ="Business"	3	36
App Type ="Telecom"	3	14
Development Paradigm ="Agile"	2	34
Development Paradigm ="Waterfall"	2	16
Keywords LIKE ""AGILE""	0	0
Organization ="Binary Systems"	1	10
Organization ="FiberTel "	1	7
Organization ="Global Energy Systems"	1	9
Organization ="High Street Financial"	1	4
Organization ="National Banking"	1	13
Organization ="Telecom Gen"	1	7
Project Name Is Not Null	1	50

Edit...
New...
Copy
Delete
Select All Unused

OK Cancel Apply Help

1. How many DSD use each query condition?
2. # of projects returned.
3. Edit/New/Copy/Delete buttons
4. Block select/delete unused query conditions



More visibility into *what you've already created* helps clients avoid creating duplicate data sets and query conditions.

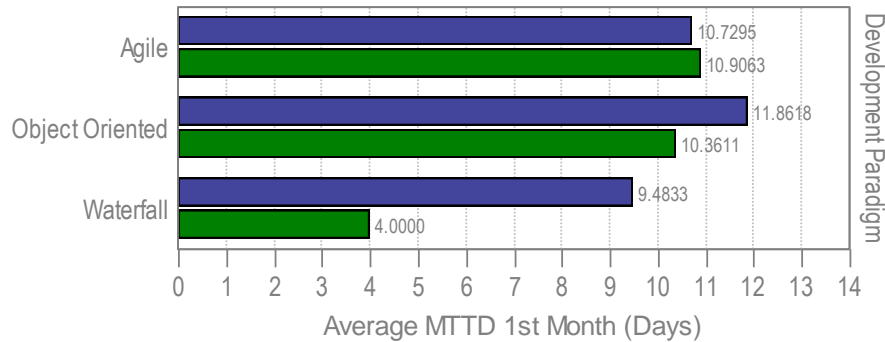
Select DSD -> review queries -> clone DSD -> refine query conditions.

No more 26 active data set limit!

Avoid “breaking” charts/reports when you delete a DSD (or inactivate it b/c you ran out of active data set slots).

Many software metrics have a skewed distribution (there are many more small values than large values). In these cases, the median is often a better measure of central tendency than the average.

Average MTTD 1st Month (Days) vs Development Paradigm

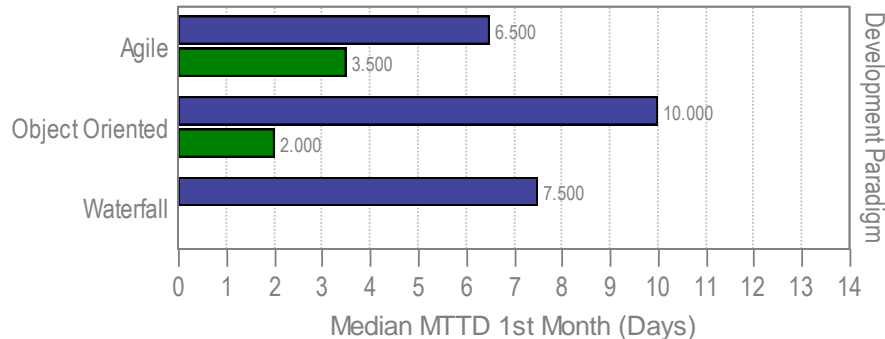


At left, average MTTD for Agile Telecom projects is 11 days.

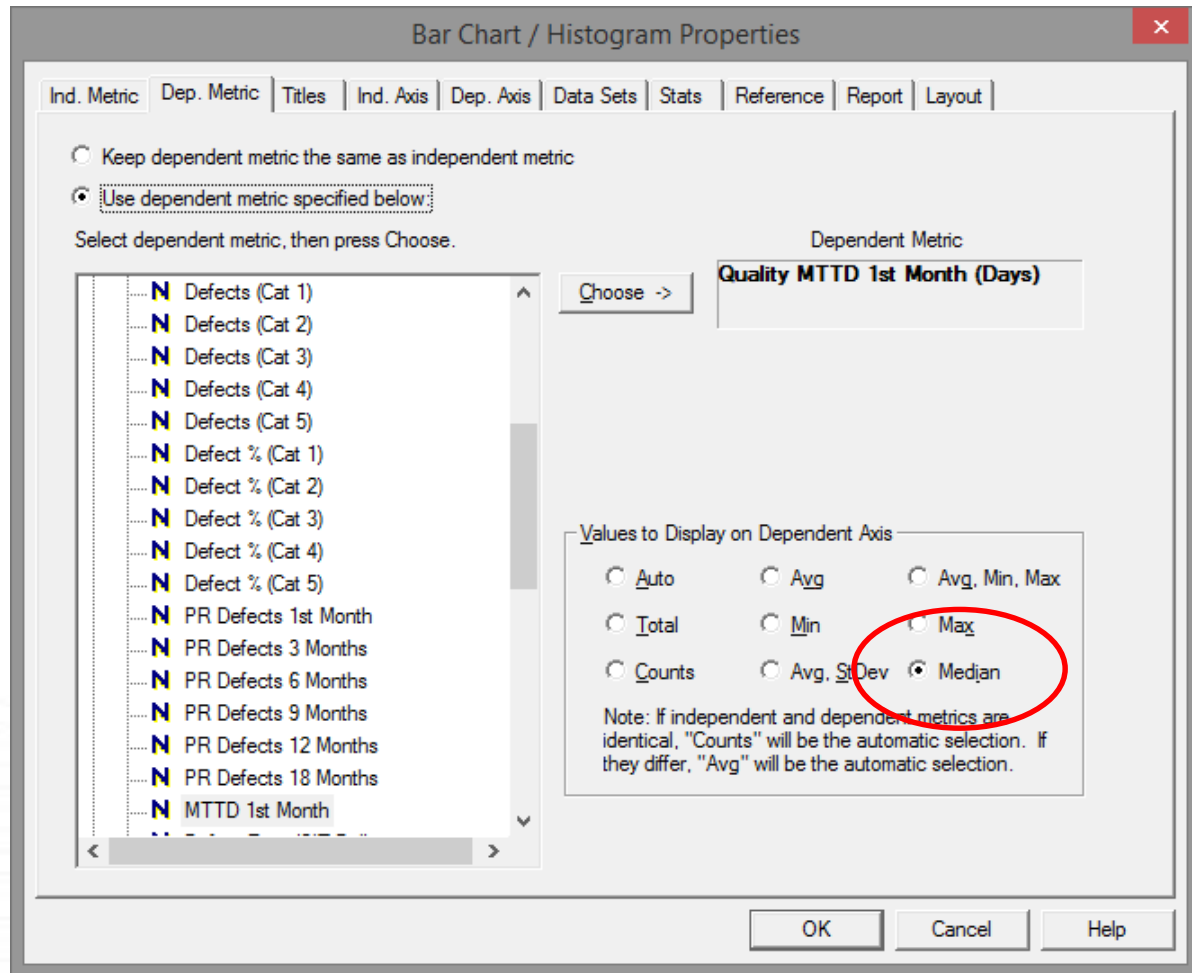
The median is only 3.5 days.

When analyzing small samples with one or two very large data values, the median provides a better picture of “typical” project behavior. Displaying the average and median together shows the degree of skew.

Median MTTD 1st Month (Days) vs Development Paradigm



Display Median on Bar Charts/Reports

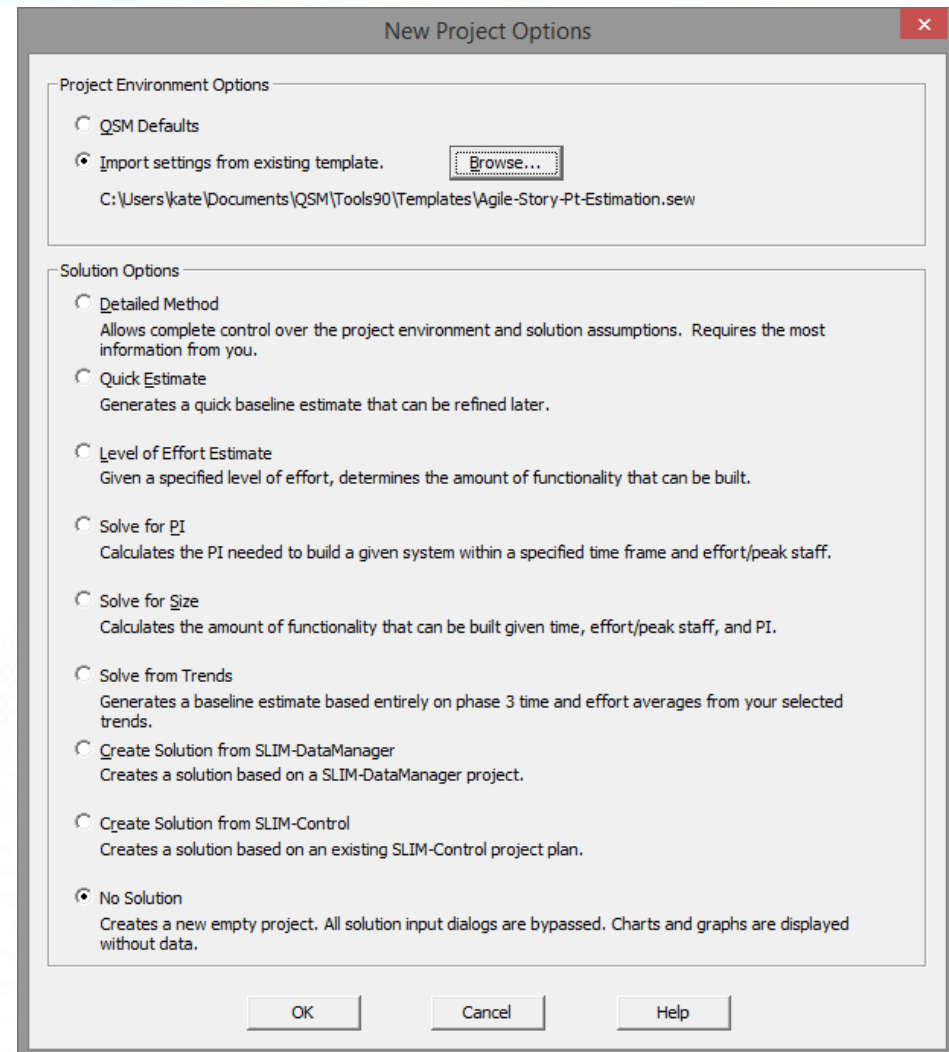


To display median values on bar charts, use the "Median" radio button on the Dependent Metric tab of the bar chart property page.

You can view the average, median, 1st and 3rd quartile values, and max/min values on the Stats tab.

- Streamline File | New from template handling
 - “No Solution” solution method
- Show Average Staff on Solution Panel
- Make arrow color on Risk Panel configurable
- Remove Rational Focal Point integration
- Restore missing Effort x Skill x Phase charts
 - Simplify/clarify settings

- New “No Solution” solution method bypasses global options, import history, project environment dialogs.
- Can use with or without a template (i.e., with QSM default settings).
- Charts/reports have no data b/c there’s no solution to display.



Average Staff on Solution Panel

- Average staff now displayed on solution panels in addition to peak staff.

The screenshot shows the SLIM-Estimate software interface. The main window displays a table titled "SOLUTION PANEL - Trend Based Solution". The table compares metrics for the "BUILD" phase and the "Life Cycle" phase. The "Average Staff" metric is highlighted with a blue arrow from the text on the left. The table also includes summary statistics at the bottom: PI=26.8, MBI=6.0, and Eff StPts=7,777.

	BUILD	Life Cycle	
Duration	9.9	9.9	Months
Effort	119.4	119.4	PHR (K)
Cost	14.3	14.3	\$(M)
Peak Staff	93.7	93.7	people
Average Staff	69.69	69.69	ppl/month
MTTD	0.116	0.116	Days
Start Date	1/1/2014	1/1/2014	
PI=26.8 MBI=6.0 Eff StPts=7,777			

Restore Effort x Skill x Phase Charts/Reports

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- Total effort/cost by skill by phase or lifecycle charts and reports now available again.
- UI has been simplified

Breakout Chart Properties

Data | Titles | Vert. Axis | Horz. Axis | Report | Layout

Select the solution and type of breakout to display.

Project-solution to display

- Current Project, current solution.
- Selected project-solution (from Solution Log).

Breakout Selection

- Effort by Skill Category
- Cost by Skill Category
- Effort by WBS Task
- Cost by WBS Task

Options

Select Phase

Life Cycle

- Phase 1
- Phase 2
- Phase 3
- Phase 4
- Life Cycle

Show data as percentages Show data labels

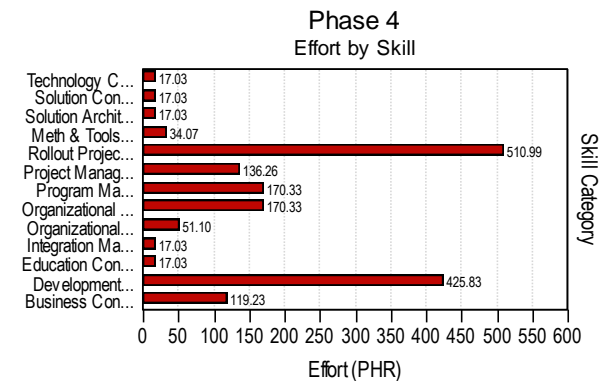
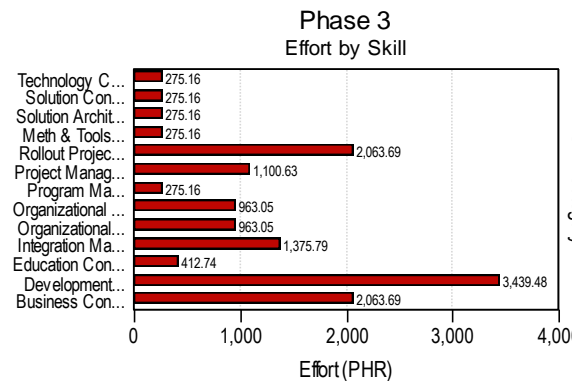
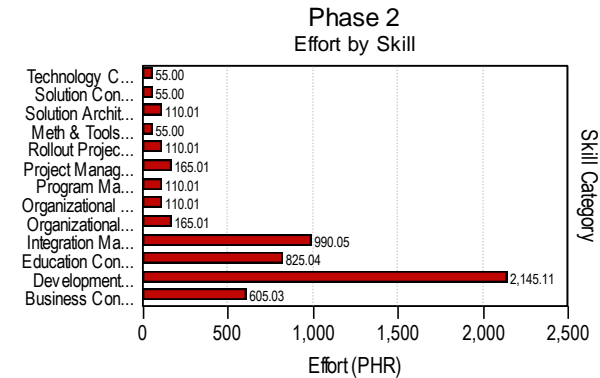
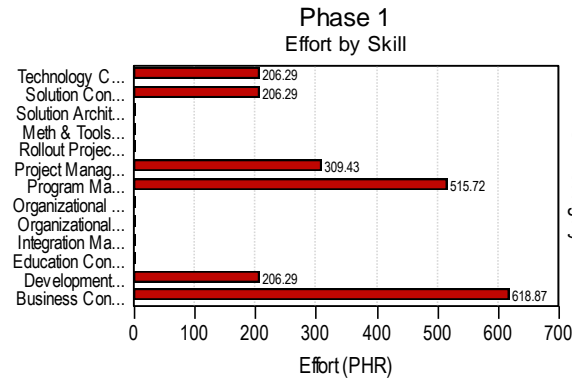
OK Cancel Help

Restore Effort x Skill x Phase

Charts/Reports

- Produces bar charts showing total effort/cost by skill for each phase, either as a % of total phase effort or as a simple total.

Effort Detail



Project: Package ImplementationTe...

- Changes to SLIM-Control Agile template (backported to 8.2):
 - Change attributes on burndown metrics
 - Add Plan/Actual data to SC Agile template
- Consider missed Milestones in Forecast
 - Missed actual MS dates now reflected in “# of data points used in forecast” column
- Increase font size on Solution Panels

- Can now retrieve list of trends in workbook.
- New API Call to retrieve Calculated PI (including PI calculator adjustments) from SLIM-Estimate workbook.
- SLIM-Estimate API now accessible as COM component from C#.
- Better data validation for data imported via API now available in SLIM-DataManager (new Database Validation report).

- Export to MPX removed from all menus (SLIM-Estimate, SLIM-MasterPlan export to MS Project MPP format)
- Architecture changes:
 - Migrate SLIM to Unicode
 - Data Access Layer changes
- 9.0 Sample/Template updates
 - Project dates updated
 - Workbooks upgraded to newer Access version (can open in Access 2013)
 - New features highlighted in SLIM-DataManager/SLIM-Metrics samples and templates
 - Several samples discontinued (archived on SharePoint). QSM Corporate | Samples and Templates folder.

- “Newer Version Available” message on splash screen when application launches
 - Countdown to expiration
 - Help | Check for Updates
- Base Size Unit
 - Clarify UI in all apps
 - Blank out gearing factor when changing function unit
 - Disable editing of gearing factor when function unit = base size unit
- Documentation
 - Guided tours for SLIM-Estimate, SLIM-DataManager, SLIM-Metrics revised/expanded
 - Step by step instructions for creating new extension menu items

Download release notes from [Installation and Upgrades page](#) on QSM web site.

The screenshot shows the QSM website interface. At the top left is the QSM logo with the tagline "The Intelligence behind Successful Software Projects". To the right of the logo is a search bar and a navigation menu with links for Home, Tools, Consulting, Training, Resources, Support, About Us, and Contact Us. In the top right corner, there are links for "» Online Demo", "RSS", "Contact Us", and "800.424.6755". The main content area features a section titled "SLIM-Suite Installations and Upgrades" with a sub-header "SLIM-Suite Installations and Upgrades". Below this, there is a paragraph stating "The latest version of SLIM-Suite is **version 9.0a**. The SLIM-Suite 9.0 setup file can be used to:" followed by a list of instructions. On the right side of the page, there is a sidebar with a "QSM RESOURCES" section containing links for "REQUEST A MEETING", "REQUEST A QUOTE", "TAKE PRODUCT TOUR", and "DOWNLOAD BROCHURE". At the bottom of the sidebar is a green button that says "GET A FREE FEASIBILITY PROJECT ESTIMATE NOW!".

» Online Demo | RSS | Contact Us | 800.424.6755

Search

▶ Home | ▶ Tools | ▶ Consulting | ▶ Training | ▶ Resources | ▶ Support | ▶ About Us | ▶ Contact Us

SLIM-Suite Installations and Upgrades

The latest version of SLIM-Suite is **version 9.0a**. The SLIM-Suite 9.0 setup file can be used to:

- **Install version 9.0a** for the first time.
 - To install version 9.0a, simply download and run the 9.0a setup file. You'll need the username and password from your version 9.0a license email to access the upgrade file. When prompted for the license information, enter the registration and activation codes from your 9.0a license email.
 - Multiple versions of SLIM-Suite (e.g., versions 8.1, 8.2, 9.0) can be installed and run in parallel on the same machine. Each application installs separately, resides in its own folder, and provides its own support, sample, and template files. **Installing SLIM-Suite 9.0a does not upgrade previous versions of SLIM-Suite, nor does it remove them from your machine.** To remove previous versions of SLIM-Suite, uninstall them via **Windows Control Panel | Programs and Features** or use the uninstall shortcut:

QSM RESOURCES

- ~ REQUEST A MEETING ▶
- ~ REQUEST A QUOTE ▶
- ~ TAKE PRODUCT TOUR ▶
- ~ DOWNLOAD BROCHURE ▶

GET A FREE FEASIBILITY PROJECT ESTIMATE NOW!

- Reporting:
 - Create, Save, Reload Multiple View Layouts
 - Import View Layouts from other SLIM-DataManager files
 - 14 Default, Preconfigured View Layouts
 - Ad hoc report capability via Database Summary report
 - New Database Validation Report
- Redesign of Keywords
 - Checkbox interface
 - Master Keyword list – global editing, reordering
 - Display Keywords on project list view/database summary report

- Redesign of Single/Multi-Select Custom Metric Interface
 - Checkbox/radio button GUI for data entry
 - Reorder and manage selection items
 - Display Single/Multiple select CM on DM Project List and in SLIM-Metrics
- Manage Custom Metrics & Categories
 - Reorder list of categories and metrics (drag n' drop)
 - Collapse/Expand All
 - Deactivate Unused items (Show/Hide to keep list manageable, speed up data entry)

- Streamlined Data Entry for Sizing and Language Data
 - Base Size Unit (the size unit formerly known as “The Basic Work Unit”)
 - Primary, Secondary Size records
 - Simpler UI for Data Entry
 - Clearly show whether gearing factors include unmodified code
 - Better Feedback to user about normalized size record, calculation of gearing factors
 - Changes to primary size record update all secondary size records

- Sample, Templates files updated/enhanced
 - Upgraded Access dbase version
 - Updated dates in Sample/Templates files
 - SLIM-DataManager, SLIM-Metrics samples/templates consolidated and updated to show off new features (keywords, effective and total gearing factors, multi-metric and single select metrics, stored view layouts)
- SLIM-Estimate, SLIM-DataManager, SLIM-Metrics guided tours revised and updated
 - More thorough coverage of new features
 - Show off updated samples, templates