



The Evolution of SLIM[®] Tools

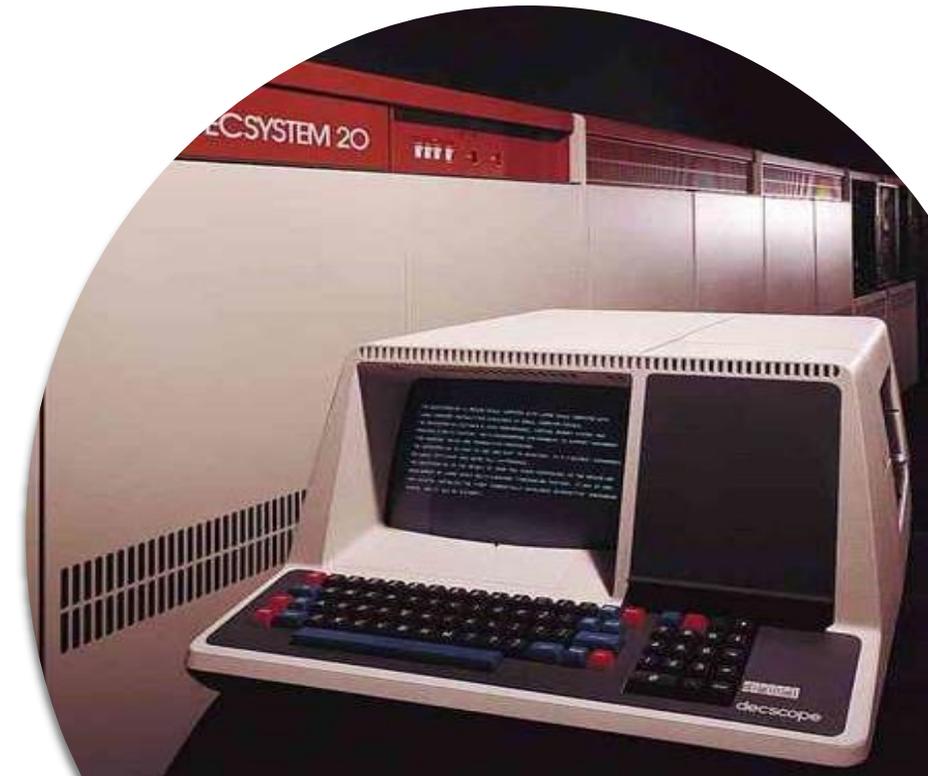
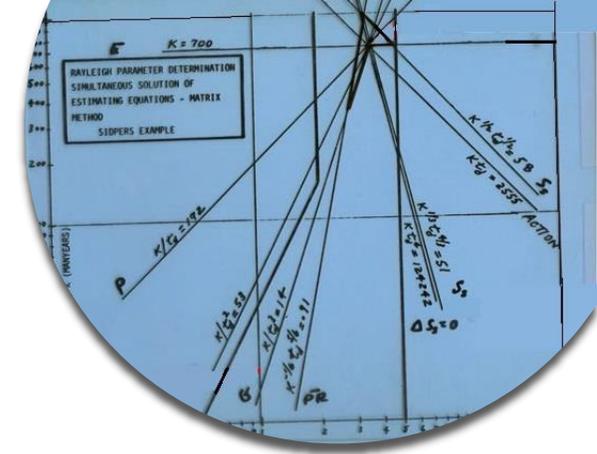
Celebrating Four Decades of Innovation

Overview

- **PAST:** product development timeline, by decade – 1978-2018
- **PRESENT:** Current SLIM-Suite of tools:
 - SLIM Desktop and SLIM-Collaborate
 - Leveraging SLIM APIs
 - Agile Adjuster
 - Resource Demand Management, PPM Framework, SLIM PPM Connector for CA PPM
 - Extension Menu Items (SLIM desktop) and External Calls (SLIM-Collaborate)
- **FUTURE:** Upcoming releases. What features would you like to see?

The 1970s

- **1975** Larry Putnam, Sr. develops **software equation**
- **1978** QSM, Inc. is formed
- **1979** **SLIM DEC 20** - 1st timeshare version of SLIM-Estimate hosted on DECSYSTEM 20 mainframe
 - Written in Fortran, 8000 SLOC
 - Monte Carlo risk simulation, linear programming

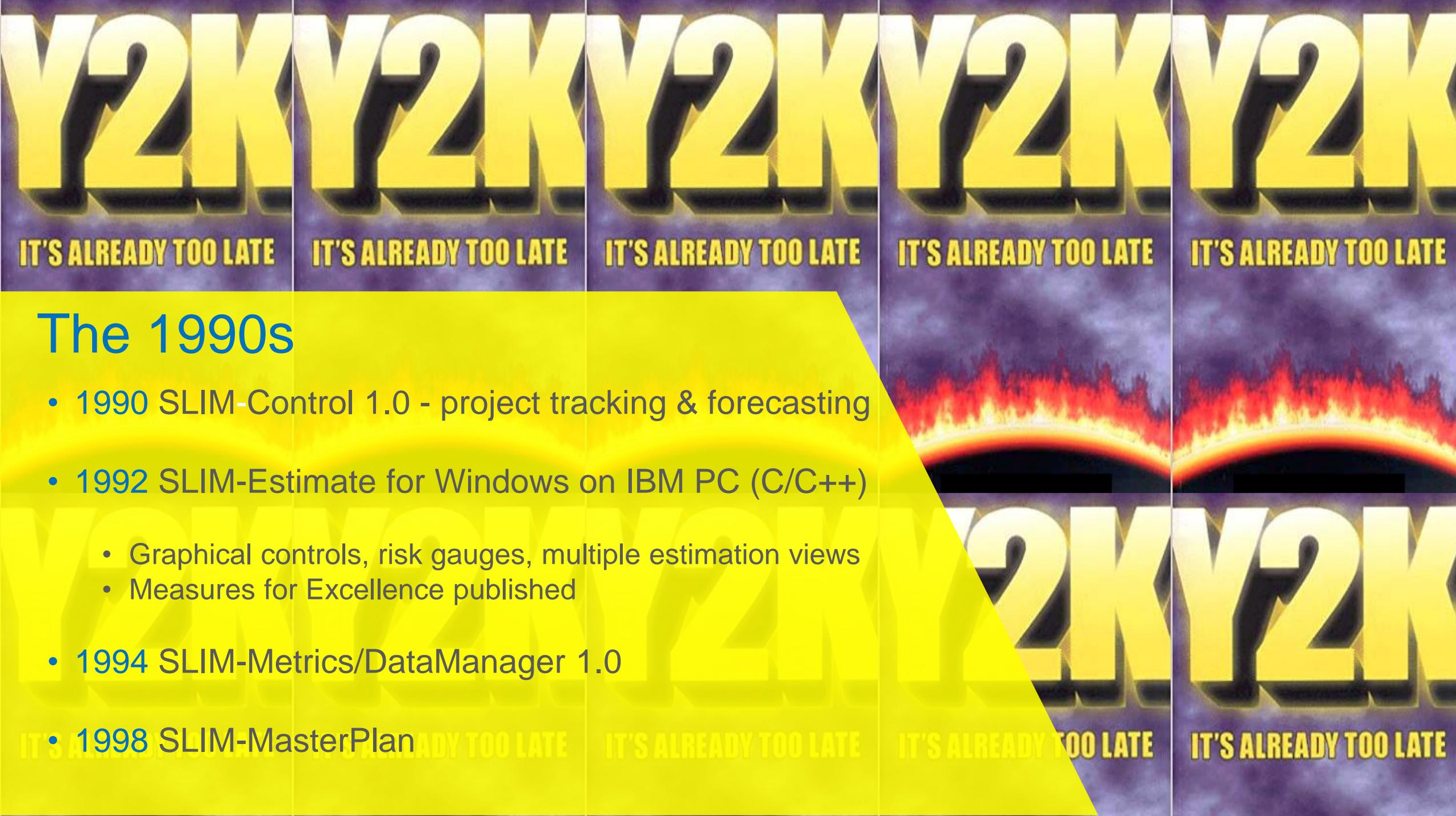


The 1980s

- 1980 SLIM HP 80 series (DOS/Basic)
 - 1st commercial, standalone desktop estimation tool
- 1984 SLIM for IBM PC (DOS/BASIC)
 - Rayleigh defect model introduced



- 1986 PADS module - historical data collection/calibration (BASIC/Assembler)
- 1987 Size Planner (great-granddaddy of Size Calculator)

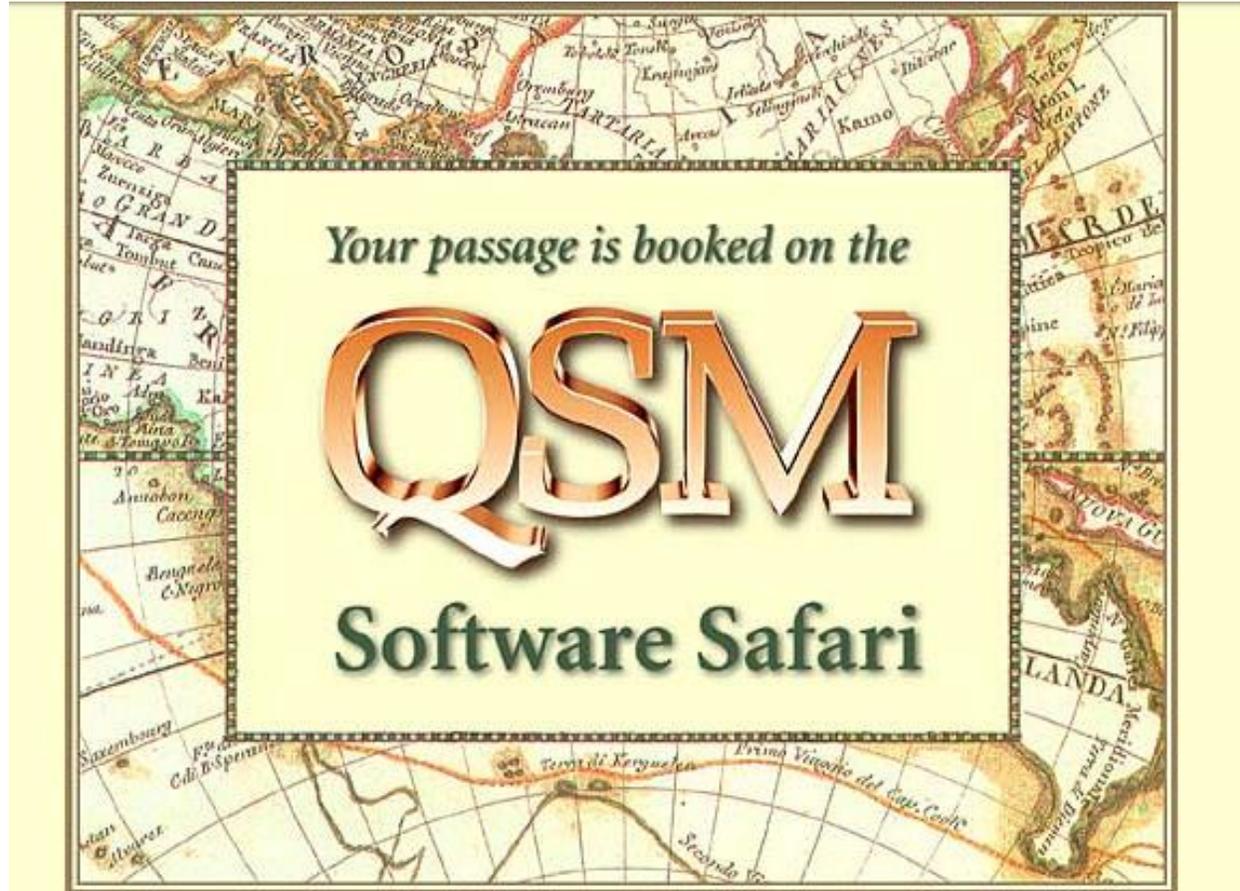


The 1990s

- 1990 SLIM-Control 1.0 - project tracking & forecasting
- 1992 SLIM-Estimate for Windows on IBM PC (C/C++)
 - Graphical controls, risk gauges, multiple estimation views
 - Measures for Excellence published
- 1994 SLIM-Metrics/DataManager 1.0
- 1998 SLIM-MasterPlan

It's a Jungle Out There!

The QSM web site in 1997



Take a journey with **Quantitative Software Management** and discover the path to successful software development. QSM helps you stay on schedule, stay on budget, and reach the right destination - software that does what you want it to. For all the adventure without the peril...



The 2000s

- SLIM-Suite 5.0 - all 5 SLIM-Suite tools released at same time.
- APIs for SLIM-Estimate, SLIM-DataManager, and SLIM-Control.
- Integrations with MS Project, MS Office, IBM Rational RTC and Rational Portfolio Manager/Rational Method Composer.
- SLIM-MasterPlan enhanced (task dependencies)

QSM Web Site in 2001

[Get Demo Disk](#)

[SLIM-Estimate](#)

[SLIM-Control](#)

[SLIM-Metrics](#)

[SLIM-MasterPlan](#)

[QSM Database](#)

[About QSM](#)

[QSM Clients](#)

[What's New?](#)

[Users Conference](#)

Quantitative Software Management has assisted clients with all aspects of software project management since 1978. We offer **Software Lifecycle Management (SLIM)** methods and tools for:

- **schedule & cost estimation**
- **in-progress tracking & adaptive forecasting**
- **benchmarking / process improvement analysis**

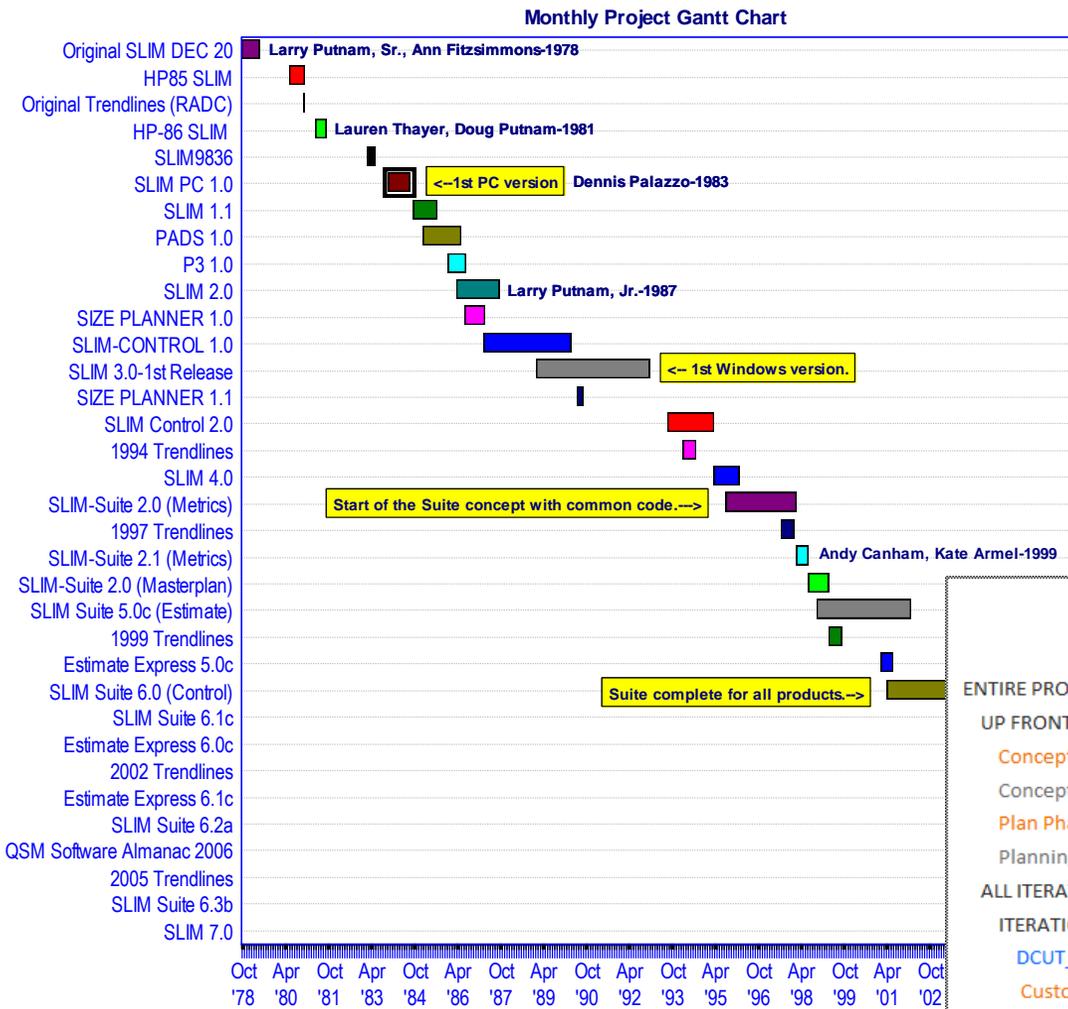
The SLIM Methodology is based on a solid foundation of on-going research and analysis, with over 20 years of experience supporting our clients in the field. The result: a proven suite of tools and services designed to support you at every stage of the software lifecycle.



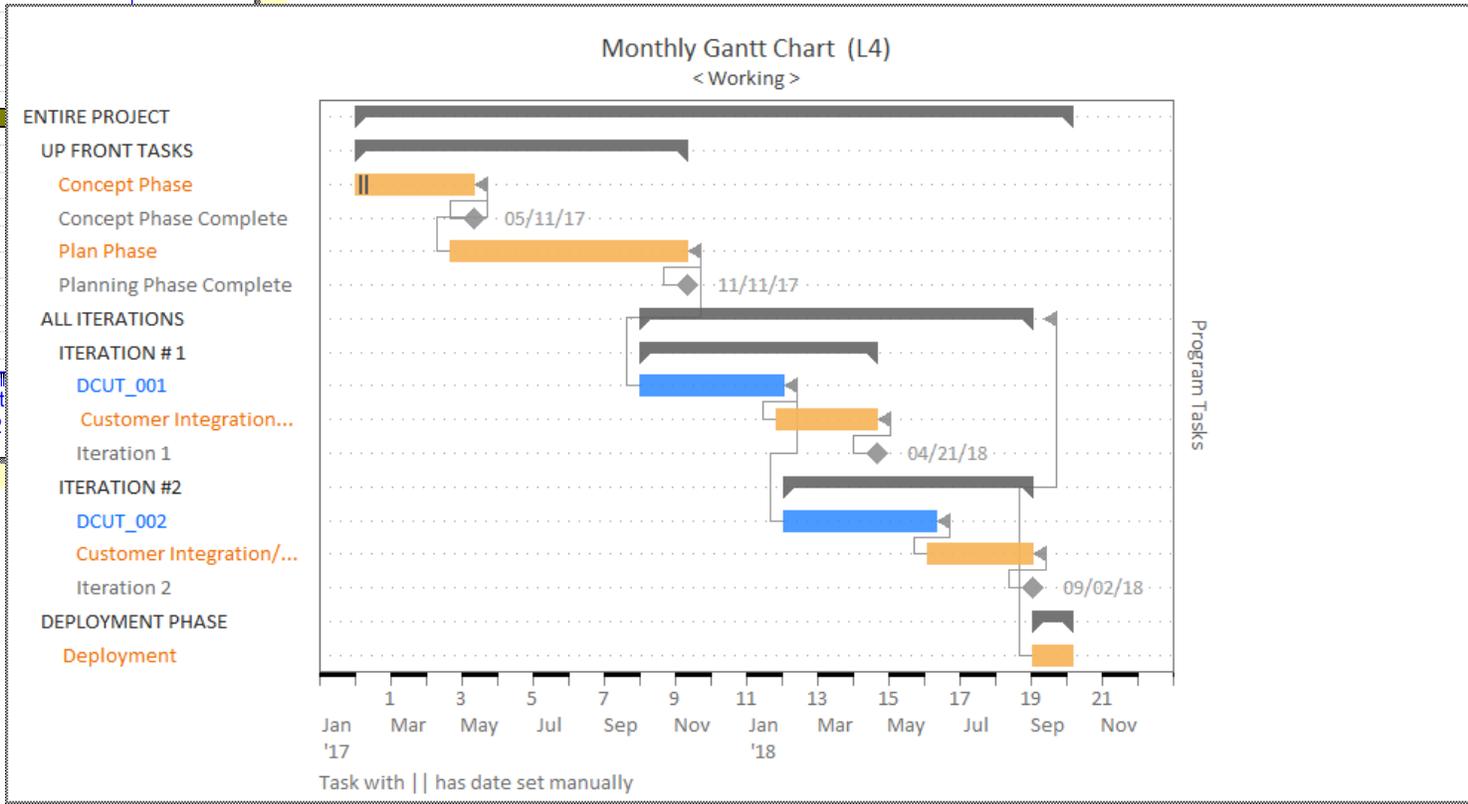
Products ,
Services ,
Training ,

Recognize anyone?





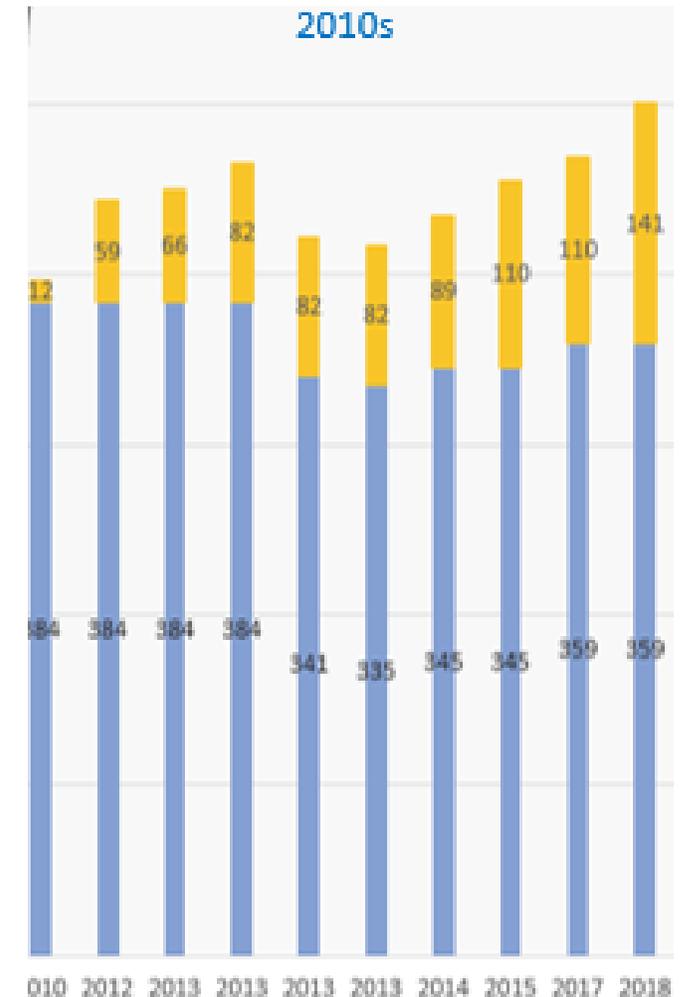
QSM Product timeline in SLIM-MasterPlan 6.3 (circa 2006)



Screen snap from SLIM-MasterPlan 10.1

The 2010s

- SLIM-WebServices 1.0 (now, SLIM-Collaborate) released.
- SLIM-Collaborate 2.0 - Round Trip integration with SE added to Collaborate.
- SLIM-Collaborate 3.0 - SLIM on the Server integrates SLIM-Collaborate with SLIM-desktop
 - Skills breakouts available in Collaborate!
- Coming soon! Risk modeling in Collaborate 3.1.
- SLIM-Estimate 8.2 - detailed effort breakouts for resource demand capacity planning
 - SmartSheets, Agile Adjuster, Skills utilities
- SLIM-Suite 9.0 – improved database management, analysis
 - PPM Connector framework for integrating with PPM tools
 - Clarity adapter
- SLIM 10.0 - Skills added to SLIM-Control and MasterPlan
 - Quadrant charts



QSM Web Site 2013

Announcing SLIM- WebServices (now, SLIM- Collaborate)

QSM[®] The Intelligence behind Successful Software Projects

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Introducing SLIM-WebServices

Project intelligence is infinitely more valuable when shared.

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RECENT BLOG POSTS

- [Updated Performance Benchmark Table](#)
- [How Does Uncertainty Expressed in SLIM-Estimate Relate to Control Bounds in SLIM-Control? Part III](#)
- [Webinar - Building an Estimation Center of Excellence](#)
- [How does uncertainty expressed in SLIM-Estimate relate to Control Bounds in SLIM-Control? Part II](#)
- [QSM Announces Latest Update to the QSM Project Database](#)

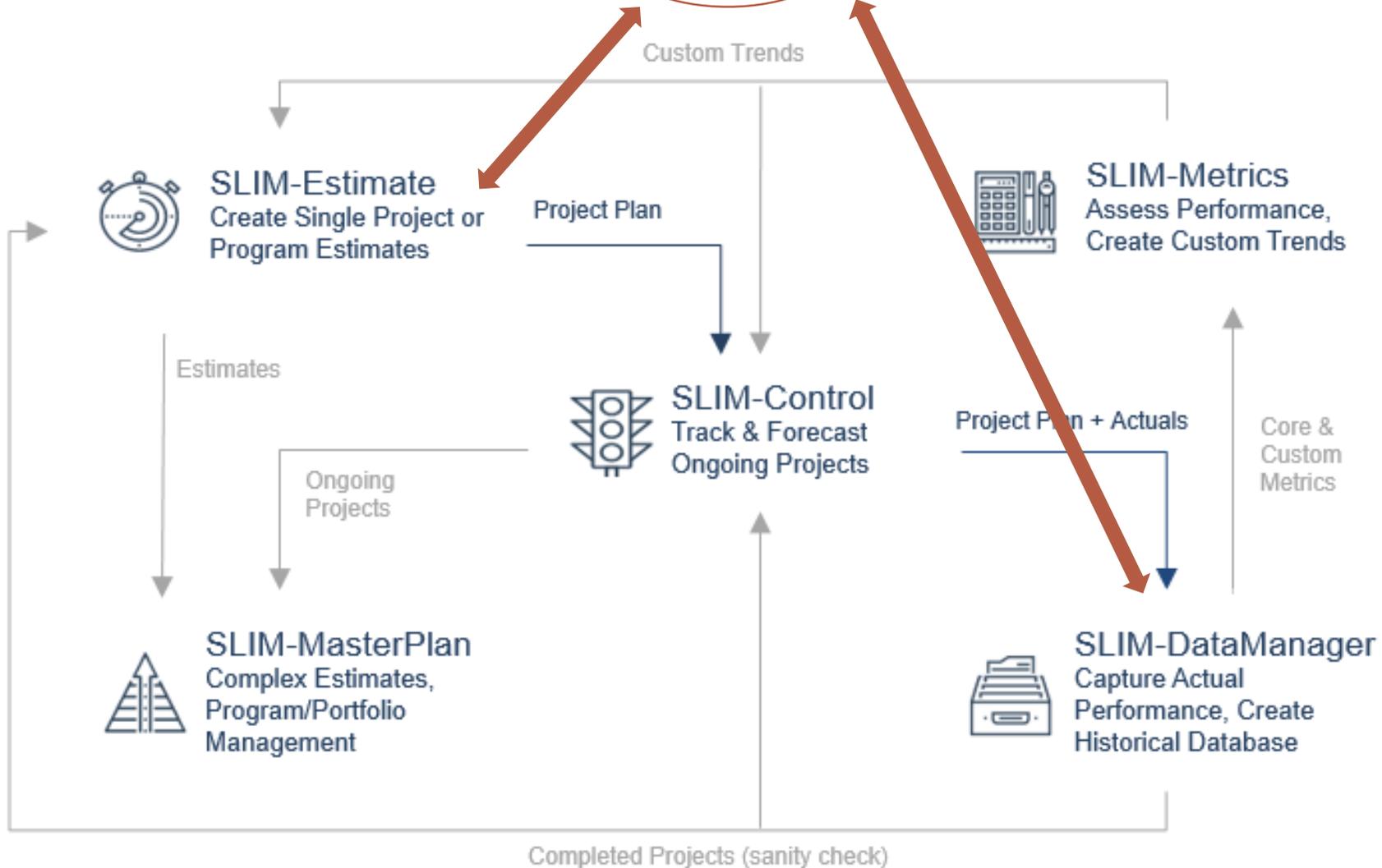
Extending SLIM Tools

Leveraging APIs,
Utilities, and
Integrations

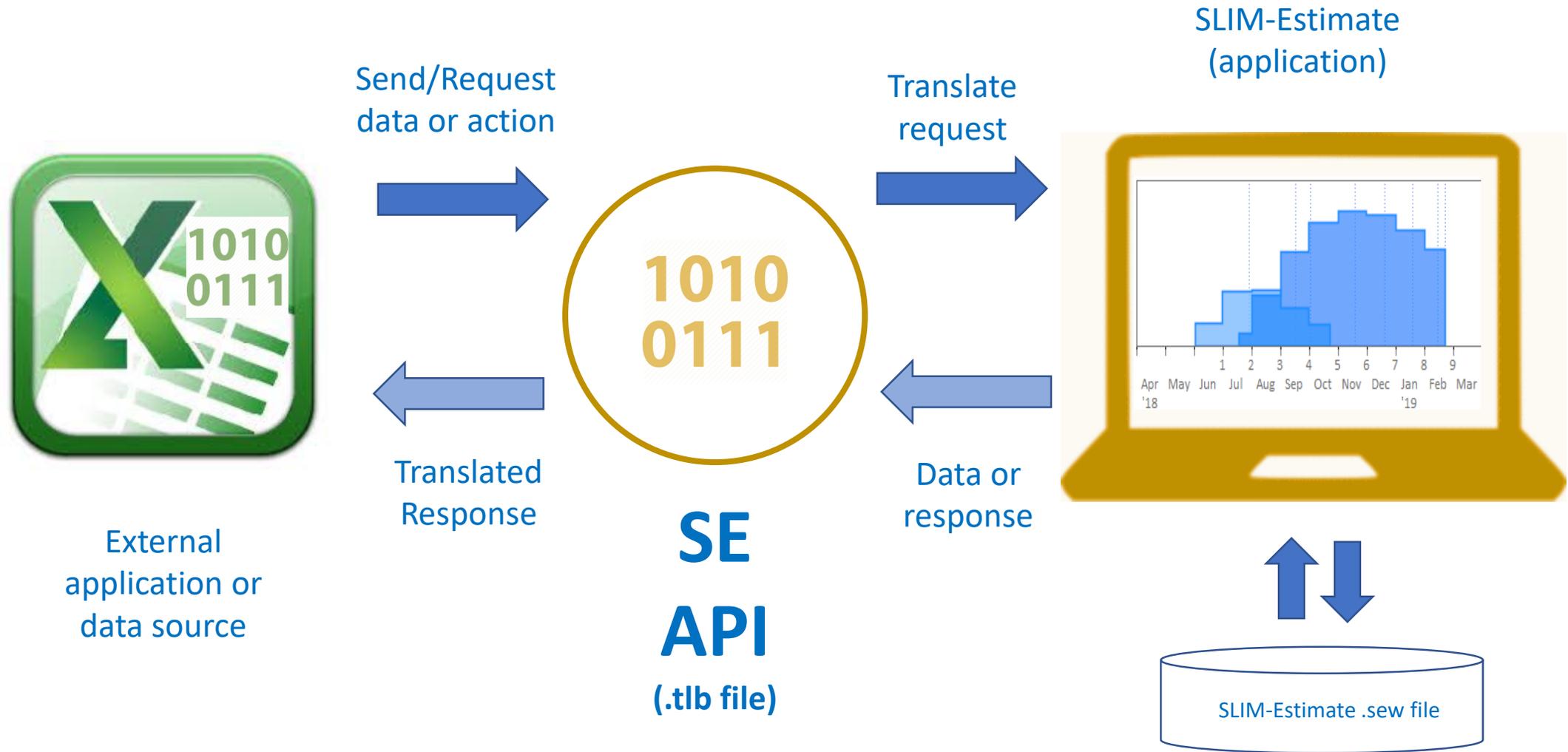
Desktop
Applications

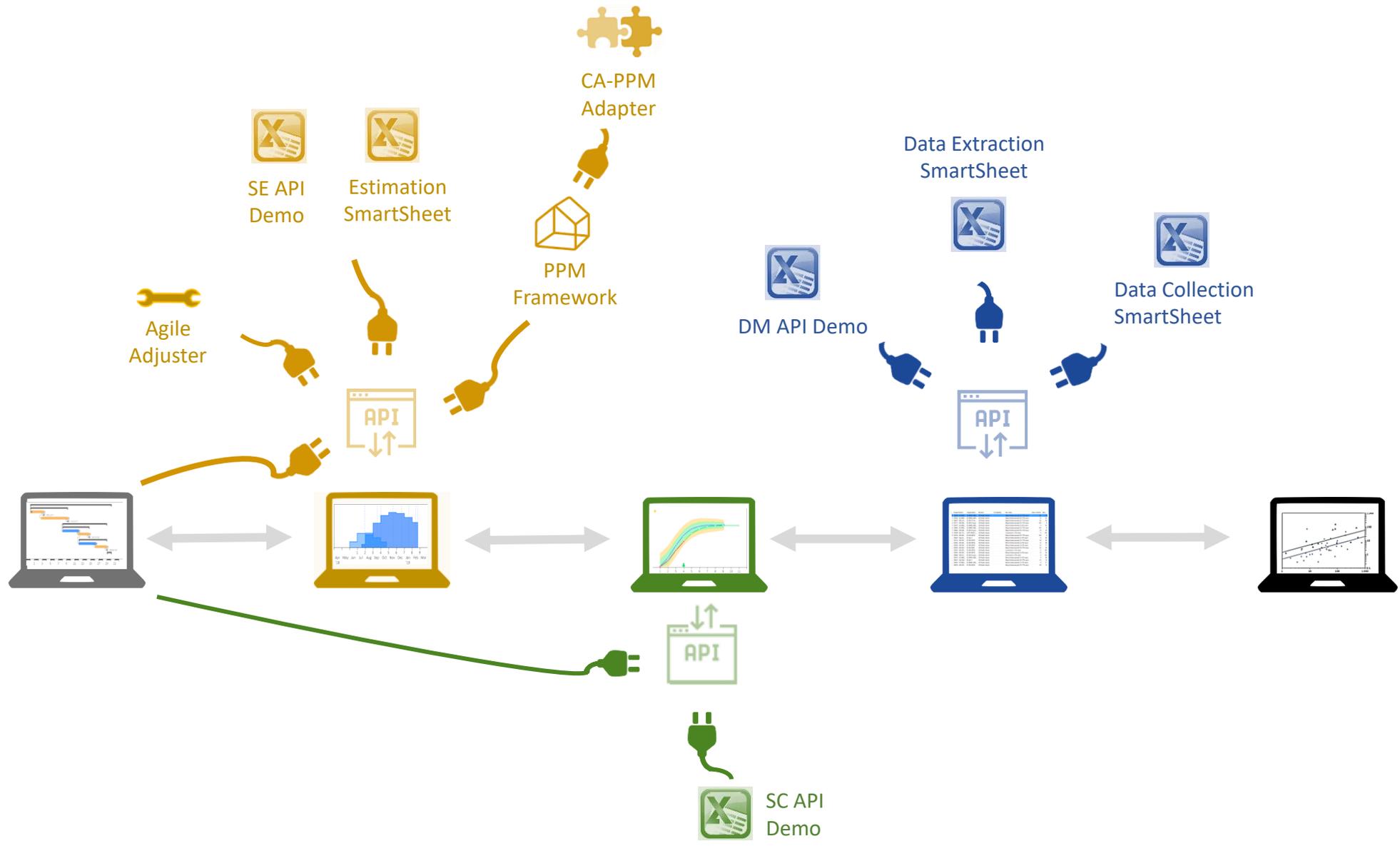


Web-based
Applications



What's an API?





What Do I Need to Leverage the APIs?

- All APIs Included with Tools (.tlb files)
- Object model, user documentation, and code samples available on QSM web site
- If writing custom code:
 - Mid-level VB or other developer (2-3 years experience recommended).
 - Experience w/ Office Automation helps
 - SLIM-Suite Training also helpful

Where Can I Learn More About APIs?

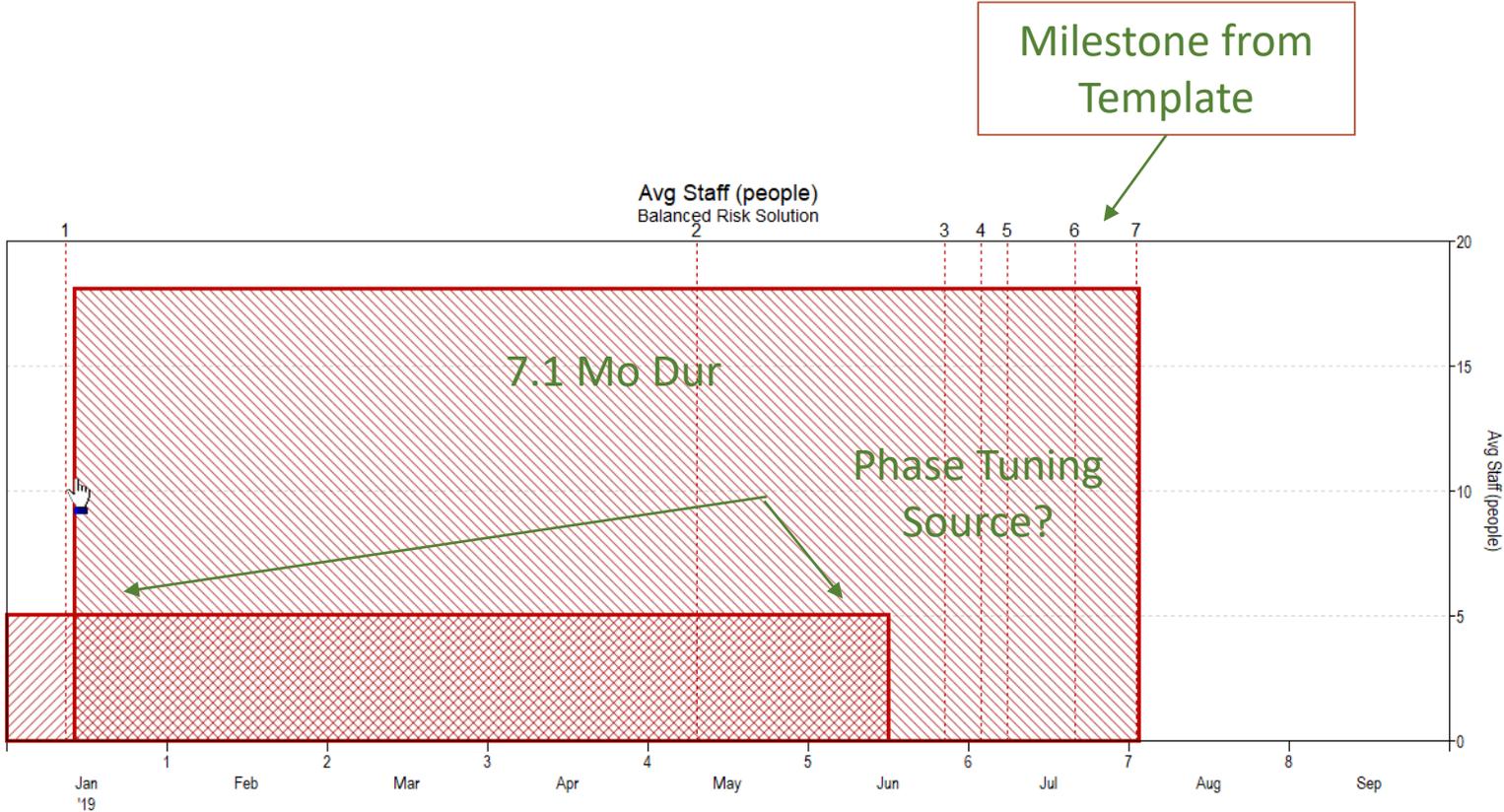
- [Download API Demos and documentation](#) from the QSM web site.
- Explore [SLIM-Estimate and DataManager SmartSheets](#).
 - Spreadsheet implementations of SLIM-Estimate and DataManager APIs
 - Run estimates from an Excel spreadsheet with built-in sizing data.
 - Collect completed project data using Excel and import into DataManager.
 - Export completed project data from DataManager to Excel.
- [Watch this webinar](#) to see how other QSM clients are using our APIs.
- Read how [QSM tailored SLIM-Estimate to calculate SAFe program increments](#).
- Contact QSM support with questions or requests for assistance.
 - support@qsm.com

Agile Adjuster

SLIM-Estimate API Utility

SLIM-Estimate Life Cycle Settings

STORY
BUILD



Agile Adjuster User Interface

Adjust Estimate based on Iteration Length

Weeks per iteration: Number of Coding Iterations Based on Current Solution:

Story Writing begins
 iteration before Development/Test begins

Story Writing ends
 iterations before Development/Test ends

Code Begins Milestone Acronym: Story Writing Ends Milestone Acronym:

Milestones Defined in terms of Iterations

	Acronym	Name	Iterations	FromStartEnd	PhaseName
▶	MMFD	Min Mkt Features Defined			Development/Test
	MMFC	Min Mkt Features Complete	3	From End	Development/Test
	REL2	Final Release Plan			Development/Test
	FC	Feature Complete	1	From End	Development/Test
	READY	Ready to Deploy			Development/Test

Story Writing Milestones to Duplicate for Forecasting

	Source	Copy
*		

Save

Agile Adjuster Aligns Key Events to Sprint/Iteration

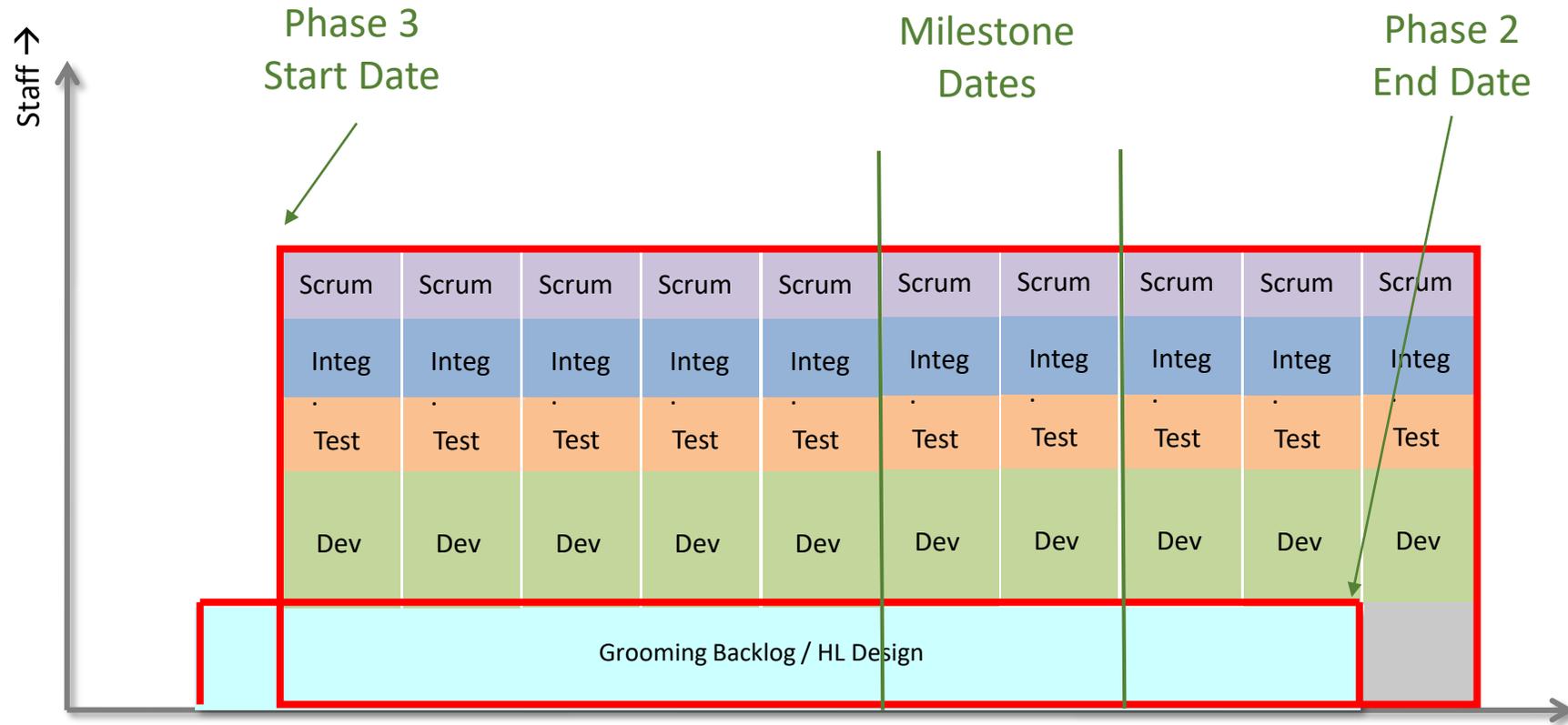
- Inputs

- # weeks/iteration
- Iteration story writing begins
- Iteration story writing ends
- Milestone coding begins
- Milestone story writing ends
- Other milestone occurrences by iteration

- Outputs

- # ITERATIONS IN Phase 3 (whole number)
- % dur of an iteration – used to calc phase tuning
- Phase 2 Start and end dates
- Phase 3 start date (overlap)
- Milestone dates

Adjusted Solution – What Changed?



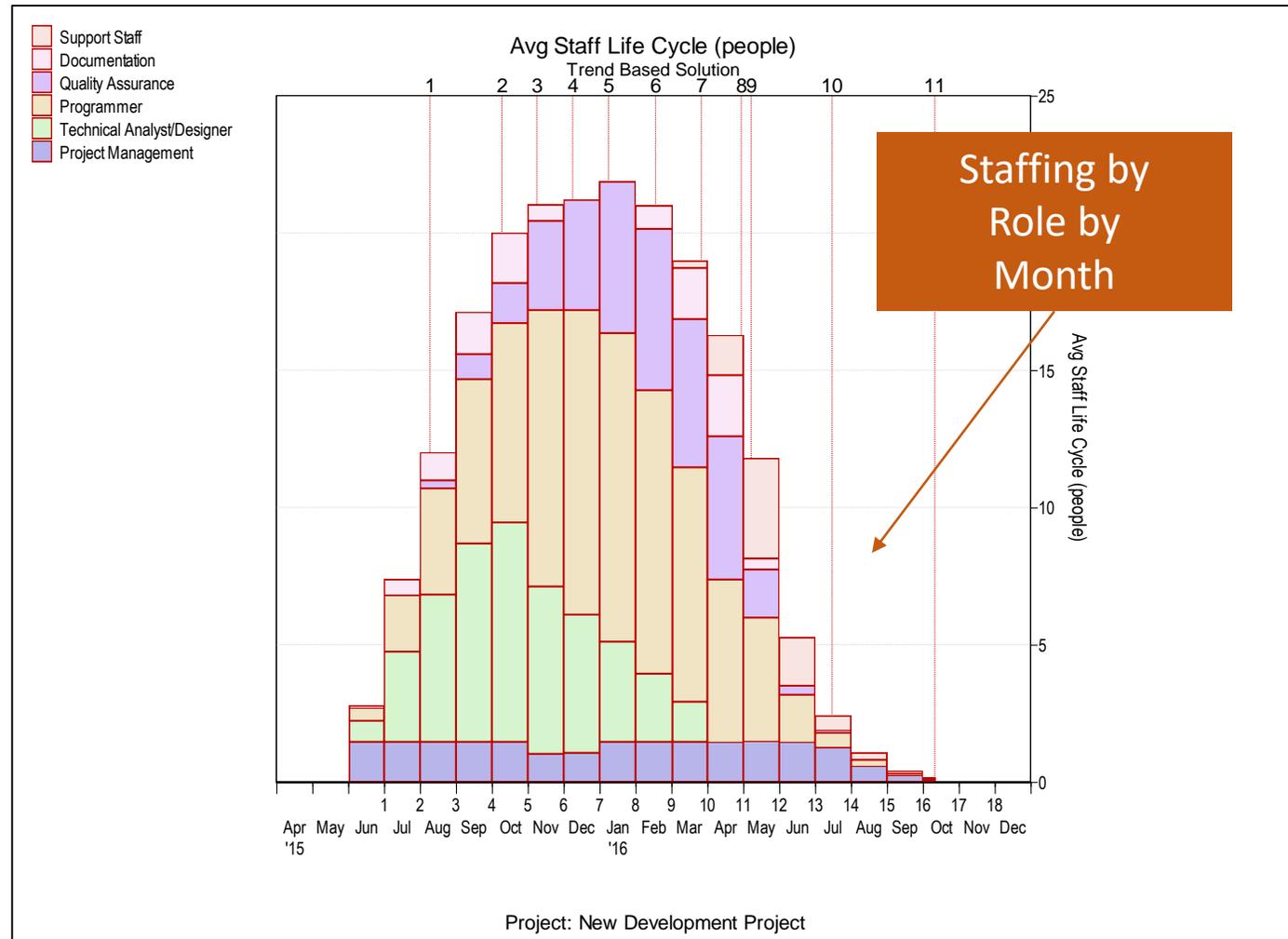
Download Agile Adjuster

- Available on [QSM Support | Downloads](#) page, [Utilities](#) section
 - Select version of your SLIM-Suite installation
- Package contains [Installation & User Guides](#)
- Need [Admin rights](#) to your computer
- [Contact QSM Support](#) for assistance – quicker 😊

SLIM PPM Connector

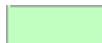
SLIM-Estimate API Utility

Resource Demand Plan

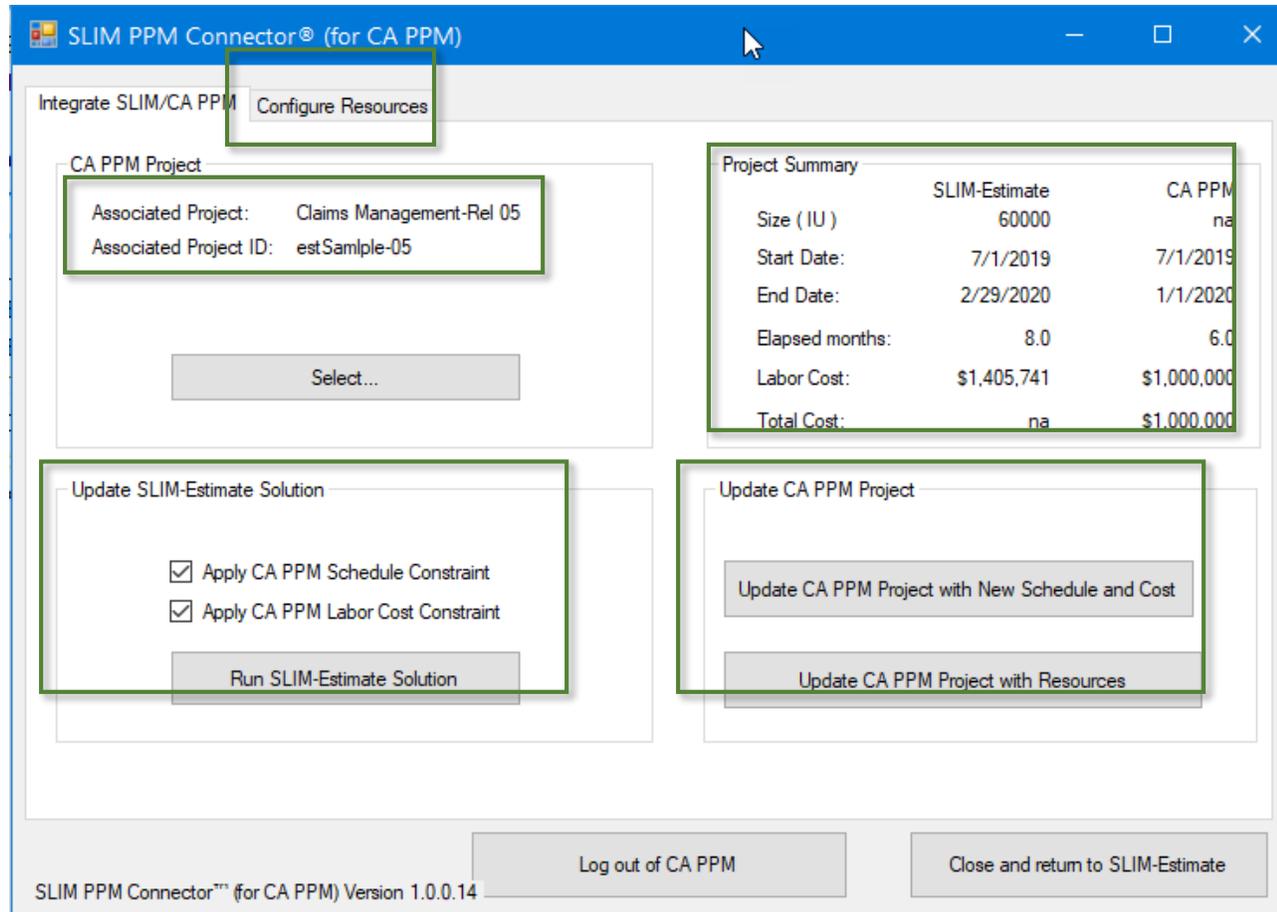


Skill Categories Allocated to Time Slices

Skill Category	Phase 1		Phase 2		Phase 3						Phase 4							
	0		1		2		3		4		5		6		7		8	
Project Management	1.00	F	1.50	F		%		%	1.50	F	1.50	F	1.50	F	1.50	F	1.50	F
Technical Analyst/Designer	100	%	55	%	40	%	25	%	25	%	15	%	10	%		%		%
Programmer		%	35	%	40	%	55	%	55	%	55	%	50	%	40	%	45	%
Quality Assurance		%		%	10	%	20	%	20	%	30	%	30	%	35	%	10	%
Documentation		%	10	%	10	%		%		%		%	10	%	15	%		%
Support Staff		%		%		%		%		%		%		%	10	%	45	%

- Each column is a Time Slice – 6 in Phase 3
- Specify Fixed and Variable Resources
 - Full-Time Equivalent (FTEs) 
 - Percentages 
- Set maximum monthly percentage to be allocated to FTEs

Link SLIM-Estimate Workbook to CA PPM Project/Idea



4 Configure Resources options:

1. Skill/Role Mapping
2. Strategic (Roll on/off)
3. Characteristics (subskills)
4. Non-labor Costs

Map CA PPM Roles to Estimate Skill Categories

Map SLIM Skill Categories to CA PPM Roles

Directions:
Highlight an available CA PPM Role and the corresponding SLIM Skill Category then select Map to create an association.
Associated CA PPM Roles are no longer available for selection. Associations are confirmed by External ID value.
Select Unmap to delete associations. Select Add Role or Remove to change the number of SLIM Skill Categories
Selecting OK will modify the Skills Allocation configuration in your SLIM-Estimate workbook.
If you added or deleted Skill Categories, you should update the Skill Allocations in your SLIM-Estimate workbook.

CA PPM Roles Available

- Developer
- Quality Assurance Specialist
- Business Analyst
- Network Engineer
- Storage Architect
- DBA
- Documentation Specialist
- Support Staff

SLIM Skill Categories

Name	Acronym	External ID	Rate
Project Manager	MGMT	csk.projectManager	200
Architect	TECH	csk.architect	150
Programmer	PROG		125
Quality Assurance	SQA		85
Documentation	DOC		60
Support Staff	SUP		50

Buttons: <- Map ->, Unmap, Add Role ->, <- Remove, Highlight Unmapped Skill Categories, OK, Cancel

Create Subskills with Resource Characteristics

The image shows two overlapping dialog boxes from a software application. The background dialog is titled "Define Resource Groups" and is for the role "Developer". It contains a table with the following data:

Name	Percentage	LaborRate*
Java Expert	50	120
Java Beginner	25	120
Networking	25	160

The "Networking" row is highlighted. Below the table are "Add" and "Remove" buttons. The foreground dialog is titled "Select Skill" and shows a tree view of skills. The "Development" category is expanded, showing sub-skills like "Architectural Analytics", "Data Modeling", "HTML", "J2EE", "WebUI", and "XML". The "Ability" dropdown is open, showing levels from "1 - Beginner" to "10 - Expert", with "9 - Expert" selected. "Accept" and "Cancel" buttons are at the bottom right.

Project Resource Demand on Team Tab

The screenshot displays the CA PPM software interface. At the top left is the CA Technologies logo and 'CA PPM'. Below it is a navigation bar with 'HOME', 'ADMINISTRATION', and 'FAVORITES'. A secondary navigation bar contains tabs for 'Properties', 'Team', 'Tasks', 'Financial Plans', 'Risks/Issues/Changes', 'Chargebacks', 'Processes', 'Hierarchy', 'Dashboard', and 'Collaboration'. The main header indicates the project: 'Project: Claims Management-Rel 05 - Team - Staff'. Below this is a filter section: '+ Filter: System Default'. The main content is a table with columns: 'Resource/Role', 'Project Role', 'Start', 'Finish', 'Allocation', and 'Aggregate Allocation'. The table lists 16 resource entries, each with a checkbox, a search icon, a resource ID, a role, start/finish dates, and an allocation value.

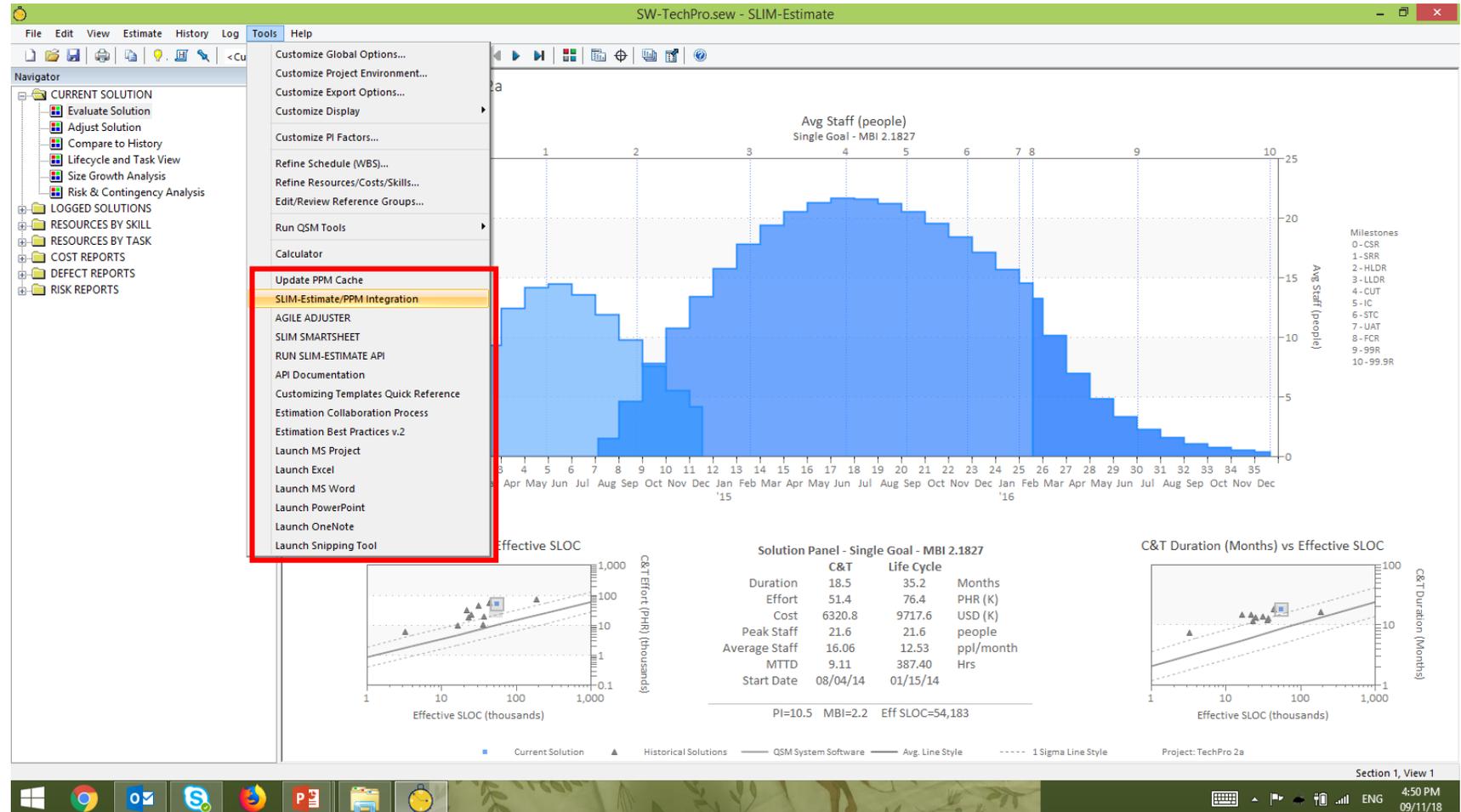
<input type="checkbox"/>		Resource/Role ▲	Project Role	Start	Finish	Allocation	Aggregate Allocation
<input type="checkbox"/>	☰ 🔍	Architect-001	Architect	7/1/19	1/29/20	1,140.00	
<input type="checkbox"/>	☰ 🔍	Architect-002	Architect	7/1/19	12/31/19	876.00	
<input type="checkbox"/>	☰ 🔍	Architect-003	Architect	8/1/19	11/30/19	696.00	
<input type="checkbox"/>	☰ 🔍	Architect-004	Architect	8/1/19	11/30/19	612.00	
<input type="checkbox"/>	☰ 🔍	Architect-005	Architect	8/1/19	10/31/19	440.00	
<input type="checkbox"/>	☰ 🔍	Architect-006	Architect	9/1/19	9/30/19	168.00	
<input type="checkbox"/>	☰ 🔍	Architect-007	Architect	9/1/19	9/30/19	84.00	
<input type="checkbox"/>	☰ 🔍	Developer-001	Developer	7/1/19	1/29/20	1,224.00	
<input type="checkbox"/>	☰ 🔍	Developer-002	Developer	8/1/19	1/29/20	1,040.00	
<input type="checkbox"/>	☰ 🔍	Developer-003	Developer	8/1/19	1/29/20	1,040.00	
<input type="checkbox"/>	☰ 🔍	Developer-004	Developer	9/1/19	1/29/20	864.00	
<input type="checkbox"/>	☰ 🔍	Developer-005	Developer	9/1/19	1/29/20	864.00	
<input type="checkbox"/>	☰ 🔍	Developer-006	Developer	9/1/19	12/31/19	612.00	
<input type="checkbox"/>	☰ 🔍	Developer-007	Developer	10/1/19	12/31/19	528.00	
<input type="checkbox"/>	☰ 🔍	Developer-008	Developer	10/1/19	12/31/19	528.00	
<input type="checkbox"/>	☰ 🔍	Developer-009	Developer	11/1/19	11/30/19	168.00	

Contact Sales Rep to Obtain SLIM PPM Connector

- Requires a separate **License**
- License email contains download instructions
- Package contains **Installation & User Guides**
 - Several installation options
 - Requires CA PPM account access
- Need **Admin rights** to your computer
- **Contact QSM Support** for assistance – quicker 😊
 - Can work with your CA PPM professional to customize

Custom Extension Menu Items

Launch process or reference documents, utilities/APIs, or external applications right from the Tools menu of any SLIM-Suite application!



Where Can I Learn More about Extension Menu Items?

- [Extension Menu Items chapter](#), SLIM-Suite online help.
- [Step by step instructions on QSM blog](#).
- Contact QSM support with questions or requests for assistance.

SLIM-Collaborate External Calls

- Set up by Site Admin.
- Triggered by predefined changes in a project's status workflow stage.
- Can open, send data to, and request actions from other applications installed on the same server.

The screenshot displays the SLIM Collaborate 3.0 NetHelp interface. The top navigation bar includes the QSM logo (Quantitative Software Management) and the title 'SLIM Collaborate 3.0 NetHelp'. Below the navigation bar, there are tabs for 'Contents', 'Index', and 'Search'. The left sidebar contains a tree view of the help content, with 'Adding or Editing An External Call' selected under the 'External Calls' section.

The main content area is titled 'Admin Site / External Calls' and features a section titled 'Adding or Editing An External Call'. The text explains that to create or edit an External Call, users should select 'Customize... | External Calls' from the Admin site menu. It also notes that previously defined External Calls are listed in a standard grid format, and users can add new calls or edit existing ones.

Below the text is a table titled 'Edit External Calls' with a sub-header 'What are external calls?'. The table has two columns: 'External Call' and 'Description'. It lists several external calls, including 'Prototype External Call2', 'QSM online', and 'TEST -Verify before launch'. Each row has a red 'X' icon in the rightmost column, indicating a delete or edit action.

Below the table, there is a section titled 'The (Add/Edit) External Call dialog can be used to create and configure a new external call or edit an existing one. In addition to the required fields (Name, URL, Client ID), you can also set up optional program parameters and authentication settings for each external call.'

At the bottom, there is a screenshot of the 'External Call' dialog box, showing the 'Edit External Call' form. The form has two fields: '*Name:' with the value 'Prototype External Call2' and 'Description:' which is currently empty.

Upcoming Releases

- SLIM-Collaborate 3.1 (coming soon!)
 - Probability-based risk buffering – similar to SLIM-Estimate
 - Fixed contingency profiles
- SLIM-Suite 10.1 (coming soon!)
 - Graphics upgrade
- SLIM-Collaborate 3.2
 - Simplify, streamline Estimation
 - More solution methods
 - Redesign project pages

Questions?

- BOLO for replay of today's Q & A session
- Email Kate and/or Laura with:
 - Additional questions, comments, or suggestions
 - Help downloading/configuring/using APIs, utilities, integrations
 - Enhancement requests
- Kate.armel@qsm.com
- Laura.Zuber@qsm.com

