ASC 606 ADOPTION

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SAFE HARBOR STATEMENT

This presentation includes forward looking statements regarding PTC's future financial performance and targets and tax rates, anticipated future operations, and expected adjustments to retained earnings and capitalization and amortization of commission expenses in connection with the adoption of ASC 606, the expected effect of such adjustments and amortization on future periods and offsets to those effects. Because such statements deal with future events, actual results may differ materially from those projected in the forward-looking statements. Information concerning factors that could cause actual results to differ materially from those in the forward-looking statements can be found on page 14 and in PTC's Annual Report on Form 10-K, Forms 10-Q and other filings with the U.S. Securities and Exchange Commission.

IMPORTANT INFORMATION ABOUT OPERATING AND NON-GAAP FINANCIAL MEASURES

This presentation includes operating and non-GAAP financial measures and targets. All prior period financial results and future period financial expectations and targets are non-GAAP financial measures. These non-GAAP financial measures are not prepared in accordance with generally accepted accounting principles. Future period non-GAAP financial targets cannot be reconciled to GAAP targets as items that affect GAAP results cannot be predicted. An explanation of our subscription operating measures, including bookings, can be found on page 15. Important information about non-GAAP financial measures can be found on page 16.

KEY HIGHLIGHTS

What's not changing?

- PTC's business model
  - We will continue to sell 1, 2, and 3-year subscriptions
- Operating cash flow and free cash flow
  - We will continue to bill customers annually for subscriptions
- Bookings disclosures
  - Total new license bookings (PEB) and ACV disclosures will continue
- SaaS/Cloud-based revenue
  - SaaS and Hybrid Cloud products will be recognized ratably

What's changing?

- On-premise subscriptions are "unbundled" into license revenue, which will be recognized upfront, and ratable support revenue; we will subtotal these to subscription revenue, and we will separately disclose support revenue from perpetual customers
- Deferred and unbilled deferred revenue, based on ASC 605
  - We expect to record a one-time adjustment to retained earnings of $350M to $380M as of 10/1/18
- 605 commission adjustment of approximately $70M capitalized and amortized over 5 years; post-606 commission deferrals
- Recurring nature of subscription revenue from ratable over subscription term to annual recurring
  - Multi-year subscription contracts are now generally structured to enable annual revenue recognition
- While we will have annual recurring subscription revenue, we expect subscription revenue to fluctuate throughout the year, based on the timing of start dates for new and renewal bookings, which vary significantly quarter to quarter

OVERVIEW AND BASIC PRINCIPLES

- ASC 606 became effective for PTC on 10/1/18 (FY19)
- Reporting under the “modified retrospective” method; no prior restatement
- Results will be reported under both ASC 605 and ASC 606 for FY’19
- Key changes to revenue recognition are in steps 4 and 5 below

Revenue Recognition – 5 Steps

1. Identify the contract with a customer
2. Identify the performance obligations in the contract
3. Determine the transaction price
4. Allocate the transaction price to performance obligations
5. Recognize revenue when (or as) the entity satisfies a performance obligation

REVENUE AND COMMISSION IMPACT

	605 Revenue and Expense Treatment	606 Revenue and Expense Treatment
On-premises subscription revenue with no significant cloud features	Ratable over term	Two performance obligations: (1) License; 55% upfront (2) Support; 45% ratable over term
Subscription revenue with significant cloud features – but not Hybrid (Initially, Creo and Windchill)	Ratable over term	Three performance obligations: (1) License, 50% upfront; (2&3) Cloud and Support; 50% ratable
SaaS, Hybrid (Vuforia Studio), and Hosting revenue	Ratable over performance period	No change[1]
Support revenue	Ratable over performance period	No change[1]
Perpetual license revenue	Upfront recognition	No change[1]
Professional services revenue	As delivered over performance period	No change[1]
Commissions	Expensed in period incurred	Amortized over 5 years

[1] We expect immaterial changes to revenue, by line of business, based on ASC 606 rules, which require re-allocation of transaction price, based on the stand-alone selling prices of performance obligations

REVENUE RECOGNITION EXAMPLE

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- 3 year on-premise subscription with no significant cloud features[1]
- $400K booking ($200K ACV)

	Year 1		Year 1 Total	Year 2		Year 2 Total	Year 3		Year 3 Total	Contract Life Total
	Upfront	Ratable		Upfront	Ratable		Upfront	Ratable		
ASC 605		$200K	$200K		$200K	$200K		$200K	$200K	**$600K**
ASC 606	$110K	$90K	$200K	$110K	$90K	$200K	$110K	$90K	$200K	**$600K**

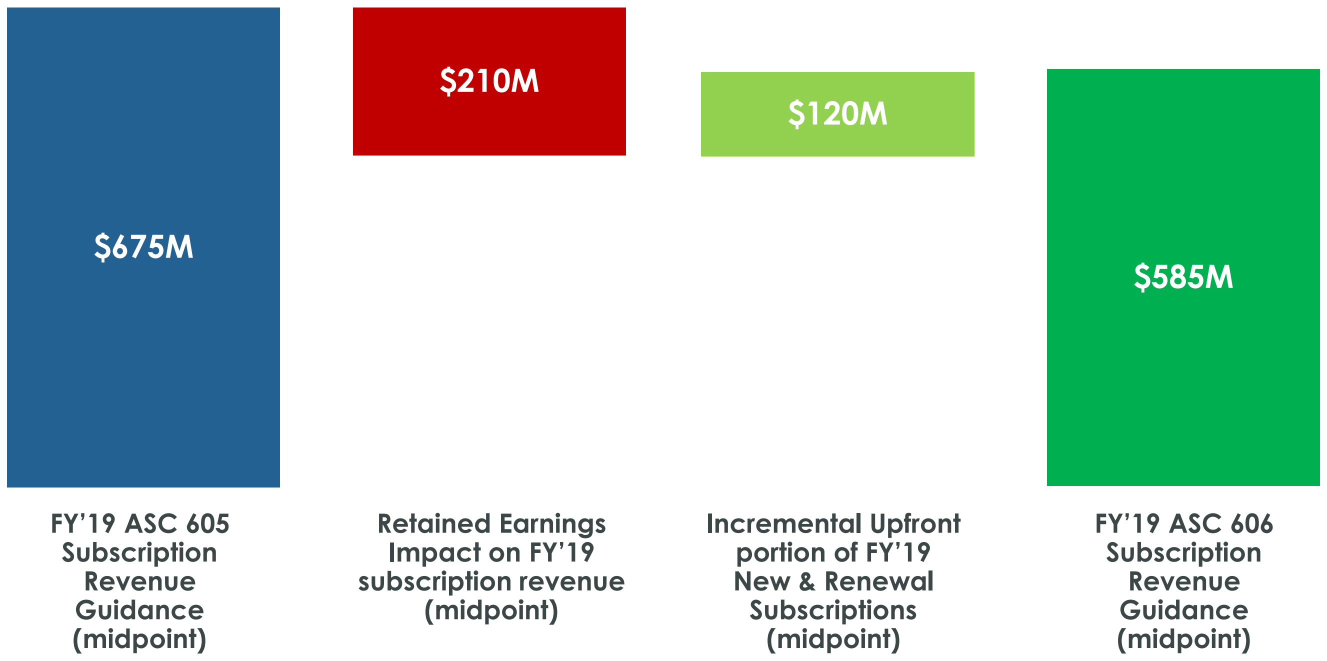
Under ASC 606, new subscription revenue (license + support), will be ratable on an annual basis, but variable quarterly

[1] Multi-year contracts are now generally structured such that the license portion of the subscription ($110K) is recognized annually as opposed to a total of $330K being recognized upfront, thus reducing annual revenue volatility.

ASC 606 REVENUE ADJUSTMENTS

- Open subscription contracts as of 10/1/18 assessed to determine the amount of billed and unbilled deferred revenue to be reflected on the balance sheet
- The difference between the amount of billed and unbilled deferred revenue, calculated under ASC 606 and ASC 605, is recorded as an adjustment to Retained Earnings on 10/1/18, lowering future reported revenue, due to revenue being recognized on an accelerated basis under ASC 606 vs. ASC 605.
- We estimate a total Retained Earnings adjustment of $350M to $380M, which we estimate will negatively impact annual subscription revenue as follows: **FY'19**: $200M to $220M; **FY'20:** $100M to $105M; **FY'21:** $35 to $40M; **FY'22:** ~$15M
- Note that the FY'19 impact of the ASC 606 revenue adjustment is expected to be mitigated by upfront recognition of new and renewal subscription revenue. Thus, we expect a material impact to reported revenue in FY'19, but, for FY'20 and beyond, we do not expect revenue reported under ASC 606 to be lower than revenue reported under ASC 605 revenue, by reason of the accounting change.

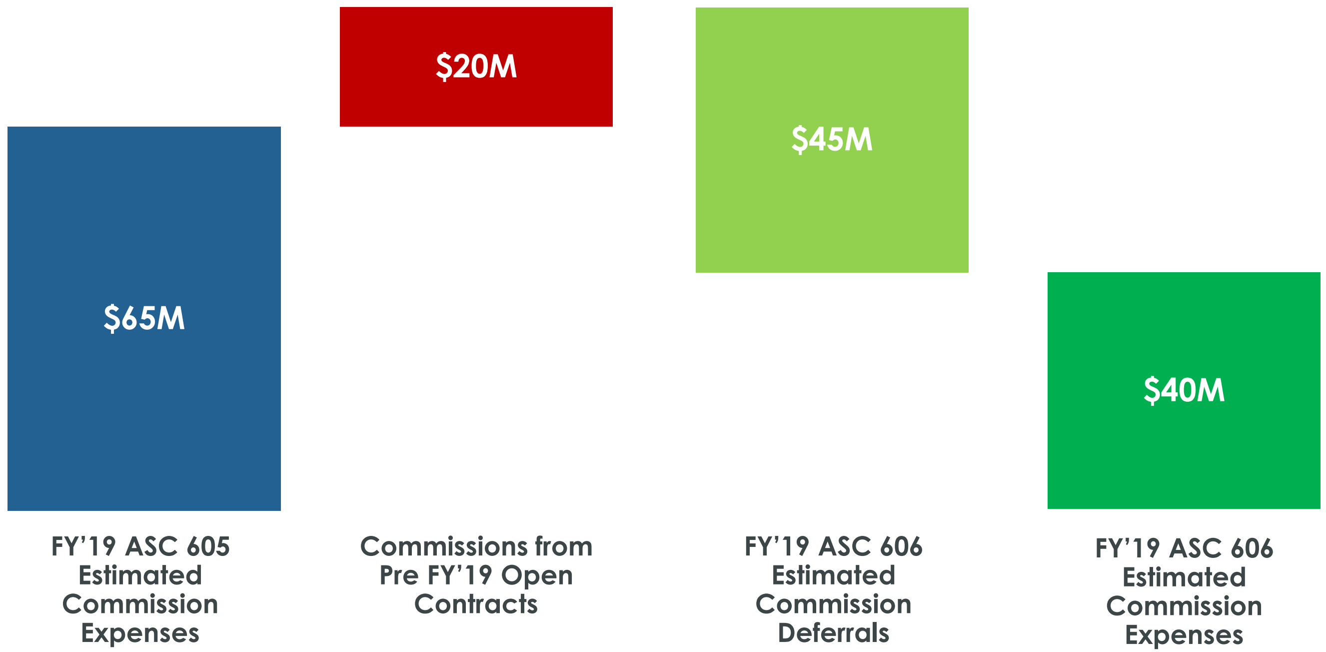
FY'19 Subscription Revenue Bridge - ASC 605 vs. ASC 606



ASC 606 COMMISSION ADJUSTMENTS

- A substantial portion of total commissions paid on subscription contracts as of 10/1/18 are capitalized on the balance sheet and amortized to expense over 5 years
- We estimate the capitalized commissions as of 10/1/18 and future amortized expense to be approximately $70M as follows: **FY'19**: $20M; **FY'20**: $19M; **FY'21**: $16M; **FY'22 to FY'23**: $15M
- Note (below) that the impact of the amortized commission expense will be offset by lower ongoing commission expense under ASC 606 treatment, due to the spreading of commission expense over 5 years

FY'19 Commission Expense Bridge - ASC 605 vs. ASC 606



FY19 GUIDANCE – BOOKINGS AND REVENUE

FY19	ASC 605		ASC 606			
($M)	Low	High	Low	High	Variance at midpoint	Comments
Bookings						
Subscription ACV	$224	$230	$224	$230	-	No change
L&S Bookings	$500	$520	$500	$520	-	No change
Subscription % of Bookings	90%	88%	90%	88%	-	No change
Revenue						
Total Subscription	$670	$680	$565	$605	($90)	($210M) retained earnings impact + $120M new and renewal subscriptions
Perpetual Support	$438	$440	$438	$440	-	No change [1]
Recurring Software	$1,108	$1,180	$1,003	$1,045	($90)	Reflects net decrease in subscription revenue
Perpetual License	52	60	52	60	-	No change[1]
Total Software	**$1,160**	**$1,180**	**$1,055**	**$1,105**	**($90)**	Reflects net decrease in subscription revenue
Professional Services	160	160	160	160	-	No change[1]
Total Revenue	**$1,320**	**$1,340**	**$1,215**	**$1,265**	**($90)**	Reflects net decrease in subscription revenue

[1] We expect immaterial changes to revenue, by line of business, based on ASC 606 rules, which require re-allocation of transaction price, based on the stand-alone selling prices of performance obligations

FY19 GAAP GUIDANCE – OPEX / EPS / CASH FLOW

FY19	ASC 605		ASC 606			
($M)	**Low**	**High**	**Low**	**High**	**Variance at midpoint**	**Comments**
Operating expense	898	903	873	877	($25)	Reflects $20M of pre-606 commission amortization offset by ($45M) deferral of ongoing commission expense under 606 treatment
Operating margin	7%	8%	1%	5%	(3%)	
Tax rate	30%	30%	30%	30%	-	No change
EPS	$0.32	$0.39	$(0.15)	$0.14	($0.36)	
Free cash flow	$255	$265	$255	$265	-	No change
Adjusted free cash flow	$273	$283	$273	$283	-	No change

FY19 NON-GAAP GUIDANCE – OPEX / EPS / CASH FLOW

FY19	ASC 605		ASC 606			
($M)	**Low**	**High**	**Low**	**High**	**Variance at midpoint**	**Comments**
Operating expense[1]	750	755	725	730	($25)	Reflects $20M of pre-606 commission amortization offset by ($45M) deferral of ongoing commission expense under 606 treatment
Operating margin[1]	22%	22%	17%	20%	(3.5%)	
Tax rate[1]	19%	18%	19%	18%	-	No change
EPS[1]	$1.65	$1.75	$1.10	$1.45	($0.43)	
Free cash flow	$255	$265	$255	$265	-	No change
Adjusted free cash flow	$273	$283	$273	$283	-	No change

[1] Items excluded from Non-GAAP guidance targets are described on page 17.

FINANCIAL MODELING CONSIDERATIONS

- Focus on ASC 605
  - We intend to report quarterly results consistent with prior periods to maintain comparability
  - YoY revenue performance and commentary in supplemental earnings material will be based on ASC 605
  - Encourage analysts to submit ASC 605 estimates to First Call
- ARR and Deferred Revenue metrics to be consistent with prior periods
- Expect wider revenue guidance ranges under ASC 606
  - New and renewal subscription License revenue will be recognized as software is "delivered", which is based on the subscription start date
  - Start dates for new and renewal bookings vary significantly quarter-to-quarter
  - Bookings are reported in-quarter if the start date is within 100 days
    - For example, a Q4 booking with a 10/1 start date would be a Q4 booking but Q1 license revenue under ASC 606

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FORWARD LOOKING STATEMENTS

Statements in this presentation that are not historic facts, including statements relating to future financial and growth expectations and targets and anticipated tax rates (including our FY21 and FY23 targets and expected tax rates), expected adjustments to retained earnings and capitalization and amortization of commission expenses in connection with the adoption of ASC 606, the expected effect of such adjustments and amortization on future periods and offsets to those effects, are forward-looking statements that involve risks and uncertainties that could cause actual results to differ materially from those projected. These risks include: the macroeconomic and/or global manufacturing climates may deteriorate; customers may not purchase our solutions or convert existing support contracts to subscription when or at the rates we expect; our businesses, including our Internet of Things (IoT) and Augmented Reality businesses, may not expand and/or generate the revenue we expect; our estimates of the amount of the adjustment to retained earnings and capitalization and amortization of commission expenses in connection with the adoption of ASC 606 and the effects thereof on future periods may differ materially from the amounts we record; foreign currency exchange rates may vary from our expectations and thereby affect our reported revenue and expense; the mix of revenue between license & subscription solutions, support and professional services could be different than we expect, which could impact our EPS results; our transition to subscription-only licensing could adversely affect sales and revenue; sales of our solutions as subscriptions may not have the longer-term effect on revenue and earnings that we expect; bookings associated with minimum commitments under our Strategic Alliance Agreement with Rockwell Automation may not result in subscription contracts sold through to end-user customers; our strategic initiatives and investments may not generate the revenue we expect; we may be unable to expand our partner ecosystem as we expect and our partners may not generate the revenue we expect; we may be unable to generate sufficient operating cash flow to return 40% of free cash flow to shareholders and other uses of cash or our credit facility limits or other matters could preclude share repurchases. In addition, our assumptions concerning our future GAAP and non-GAAP effective income tax rates are based on estimates and other factors that could change, including the geographic mix of our revenue, expenses and profits. Other risks and uncertainties that could cause actual results to differ materially from those projected are detailed from time to time in reports we file with the Securities and Exchange Commission, including our most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q.

IMPORTANT DISCLOSURES

Reporting metrics and non-GAAP definitions – Management believes certain operating measures and non-GAAP financial measures provide additional meaningful information that should be considered when assessing our performance. These measures should be considered in addition to, not as a substitute for, the reported GAAP results.

Software licensing model – A majority of our software sales historically were perpetual licenses, where customers own the software license. Typically, our customers choose to pay for ongoing support, which includes the right to software upgrades and technical support, and attach rates on support are in the high 90% range with retention rates also in the 90% range. For fiscal 2016 and year-to-date in fiscal 2017, a majority of our new license bookings have consisted of ratably recognized subscriptions. Under a subscription, customers pay a periodic fee for the continuing right to use our software, including access to technical support. They may also elect to use our cloud services and have us manage the application. We began offering subscription pricing as an option for most PTC products in Q1 FY'15, and earlier this year, we announced that beginning in January of 2019, we will no longer offer perpetual licenses, except for Kepware. We believe subscription has proved attractive to customers as it: (1) increases customer flexibility and opportunity to change their mix of licenses; (2) lowers the initial purchase commitment; and (3) allows customers to use operating rather than capital budgets. Over a four to five-year period we believe the value of a subscription is likely to exceed that of a perpetual license, assuming similar seat counts. However, initial revenue, operating margin, and EPS will be lower as revenue is recognized in part up front and in part ratably in a subscription, rather than all up front.

Any reference to "total recurring software revenue" or "recurring software revenue" means the sum of subscription revenue and support revenue. Any reference to "total software revenue" or "software revenue" means the sum of subscription revenue, support revenue and perpetual license revenue. "Subscription revenue" includes cloud services revenue.

Bookings Metrics – We offer both perpetual and subscription licensing options to our customers, as well as monthly software rentals for certain products. Given the difference in revenue recognition between the sale of a perpetual software license (revenue is recognized at the time of sale) and a subscription (revenue is deferred and recognized ratably over the subscription term), we use bookings for internal planning, forecasting and reporting of new license and cloud services transactions. In order to normalize between perpetual and subscription licenses, we define subscription bookings as the subscription annualized contract value (subscription ACV) of new subscription bookings multiplied by a conversion factor of 2. We arrived at the conversion factor of 2 by considering a number of variables including pricing, support, length of term, and renewal rates. We define subscription ACV as the total value of a new subscription booking divided by the term of the contract (in days) multiplied by 365. If the term of the subscription contract is less than a year, the ACV is equal to the total contract value. Note that both in in FY'16 as well as YTD FY'17, the weighted average contract length of our subscription bookings was approximately 2 years. License and subscription bookings equal subscription bookings (as described above) plus perpetual license bookings plus any monthly software rental bookings during the period. Total ACV equals subscription ACV (as described above) plus the annualized value of incremental monthly software rental bookings during the period. Because subscription bookings is a metric we use to approximate the value of subscription sales if sold as perpetual licenses, it does not represent the actual revenue that will be recognized with respect to subscription sales or that would be recognized if the sales were perpetual licenses, nor does the annualized value of monthly software rental bookings represent the value of any such booking.

Annualized Recurring Revenue (ARR) - To help investors understand and assess the success of our subscription transition, we provide an Annualized Recurring Revenue operating measure. Annualized Recurring Revenue (ARR) for a given quarter is calculated by dividing the portion of non-GAAP software revenue attributable to subscription and support for the quarter by the number of days in the quarter and multiplying by 365. (A related metric is Subscription ARR, which is calculated by dividing the portion of non-GAAP revenue attributable to subscription for the quarter by the number of days in the quarter and multiplying by 365.) ARR should be viewed independently of revenue and deferred revenue as it is an operating measure and is not intended to be combined with or to replace either of those items. ARR is not a forecast of future revenue, which can be impacted by contract expiration and renewal rates, and does not include revenue reported as perpetual license or professional services revenue in our consolidated statement of income. Subscription and support revenue and ARR disclosed in a quarter can be impacted by multiple factors, including but not limited to (1) the timing of the start of a contract or a renewal, including the impact of on-time renewals, support win-backs, and support conversions, which may vary by quarter, (2) the ramping of committed monthly payments under a subscription agreement over time, and (3) multiple other contractual factors with the customer including other elements sold with the subscription or support contract. These factors can result in variability in disclosed ARR.

Navigate Allocation -- Revenue and bookings for Navigate, ThingWorx-based IoT solution for PLM are allocated 50% to Solutions and 50% to IoT.

Foreign Currency Impacts on our Business – We have a global business, with Europe and Asia historically representing approximately 60% of our revenue, and fluctuation in foreign currency exchange rates can significantly impact our results. We do not forecast currency movements; rather we provide detailed constant currency commentary. We employ a hedging strategy to limit our exposure to currency risk.

IMPORTANT INFORMATION ABOUT NON-GAAP REFERENCES

PTC provides non-GAAP supplemental information to its financial results. We use these non-GAAP measures, and we believe that they assist our investors, to make period-to-period comparisons of our operational performance because they provide a view of our operating results without items that are not, in our view, indicative of our operating results. We believe that these non-GAAP measures help illustrate underlying trends in our business, and we use the measures to establish budgets and operational goals, communicated internally and externally, for managing our business and evaluating our performance. We believe that providing non-GAAP measures affords investors a view of our operating results that may be more easily compared to the results of peer companies. In addition, compensation of our executives is based in part on the performance of our business based on these non-GAAP measures. However, non-GAAP information should not be construed as an alternative to GAAP information as the items excluded from the non-GAAP measures often have a material impact on PTC's financial results and such items often recur. Management uses, and investors should consider, non-GAAP measures in conjunction with our GAAP results.
Non-GAAP revenue, non-GAAP operating expense, non-GAAP operating margin, non-GAAP gross profit, non-GAAP gross margin, non-GAAP net income and non-GAAP EPS exclude the effect of the following items:

- The net effect of a revenue reversal and revenue associated with the settlement of a previously disclosed disputed customer receivable (FY'18), fair value of acquired deferred revenue, fair value adjustment to deferred services cost, stock-based compensation, amortization of acquired intangible assets, acquisition-related and other transactional charges included in general and administrative costs, restructuring charges, headquarters relocation charges, and income tax adjustments. We excluded the net effect of a revenue reversal and new revenue related to the settlement of a previously disclosed disputed customer receivable because the revenue reversed was recorded in prior periods and because the revenue recorded in the period as it was related to the settlement and mitigated the effect of the revenue reversal.

- Fair value of acquired deferred revenue is a purchase accounting adjustment recorded to reduce acquired deferred revenue to the fair value of the remaining obligation, so our GAAP revenue after an acquisition does not reflect the full amount of revenue that would have been reported if the acquired deferred revenue was not written down to fair value. We believe excluding these adjustments to revenue from these contracts (and associated costs in fair value adjustment to deferred services cost) is useful to investors as an additional means to assess revenue trends of our business.

- Stock-based compensation is a non-cash expense relating to stock-based awards issued to executive officers, employees and outside directors and to our employee stock purchase plan. We exclude this expense as it is a non-cash expense and we assess our internal operations excluding this expense and believe it facilitates comparisons to the performance of other companies in our industry.

- Amortization of acquired intangible assets is a non-cash expense that is impacted by the timing and magnitude of our acquisitions. We believe the assessment of our operations excluding these costs is relevant to our assessment of internal operations and comparisons to the performance of other companies in our industry.

- Acquisition-related charges included in general and administrative costs are direct costs of potential and completed acquisitions and expenses related to acquisition integration activities, including transaction fees, due diligence costs, severance and professional fees. In addition, subsequent adjustments to our initial estimated amount of contingent consideration associated with specific acquisitions are included within acquisition-related charges. These costs are not considered part of our normal operations as the occurrence and amount will vary depending on the timing and size of acquisitions.

- U.S. pension plan termination-related costs include charges related to our plan that we began terminating in the second quarter of 2014. Costs associated with the termination are not considered part of our regular operations.

- Restructuring charges include excess facility restructuring charges and severance costs resulting from reductions of personnel driven by modifications to our business strategy and not considered part of our normal operations. These costs may vary in size based on our restructuring plan.

- Non-operating credit facility refinancing costs are non-operating charges we record as a result of the refinancing of our credit facility. We assess our internal operations excluding these costs and believe it facilitates comparisons to the performance of other companies in our industry.

- Income tax adjustments include the tax impact of the items above and assumes that we are profitable on a non-GAAP basis in the U.S. and one foreign jurisdiction, and eliminates the effect of the valuation allowance recorded against our net deferred tax assets in those jurisdictions. Additionally, we exclude other material tax items that we view as non-ordinary course.

A reconciliation of non-GAAP measures to GAAP results is provided within this presentation.

PTC also provides information on "free cash flow" and "adjusted free cash flow" to enable investors to assess our ability to generate cash without incurring additional external financings and to evaluate our performance against our announced long term goal of returning approximately 40% of our free cash flow to shareholders via stock repurchases. Free cash flow is net cash provided by (used in) operating activities less capital expenditures; adjusted free cash flow is free cash flow excluding restructuring payments and certain identified non-ordinary course payments. Free cash flow and adjusted free cash flow are not measures of cash available for discretionary expenditures.

GAAP / NON-GAAP GUIDANCE RECONCILIATION

The first quarter and fiscal 2019 non-GAAP operating margin and non-GAAP EPS guidance exclude the estimated items shown in the table below, as well as any tax effects and discrete tax items (which are not known nor reflected). Adjusted free cash flow excludes $18 million of restructuring payments related to our workforce realignment plans.

In millions	Q1'19	FY'19
Restructuring charges	18	18
Headquarters relocation charges (1)	2	2
Intangible asset amortization expense	13	51
Stock-based compensation expense	29	116
Total Estimated Pre-Tax GAAP adjustments	**$ 62**	**$ 187**

(1) Represents accelerated depreciation expense recorded in anticipation of exiting our current headquarters facility. In 2019, we will be moving into a new worldwide headquarters in the Boston Seaport District and we will be vacating our current headquarters space. Because our current headquarters lease will not expire until November 2022, we are seeking to sublease that space, but have not yet done so. If we are unable to sublease our current headquarters space for an amount at least equal to our rent obligations under the current headquarters lease, we will bear overlapping rent obligations for those premises and will be required to record a charge related to such rent shortfall. We currently pay approximately $12 million in annual base rent and operating expenses for our current headquarters. We expect to record a charge for any such shortfall in the earlier of the period that we cease using the space (which will likely occur in the second quarter of our fiscal 2019) or the period we exit the lease contract. Additionally, we will incur other costs associated with the move which will be recorded as incurred.