

Primjeri metrika 2

Velocity

Procjena koliko posla može da uradi tim po jedinici vremena

Potrebno je da se u svakoj time-boxed iteraciji ostvari inkrement u smislu production-ready funkcionalnosti

Pogodna za short-time planiranje

Trailing indicator, ali serija ovakvih podataka omogućavaju leading indicator za učinak tima

Može da se koristi i kao indikator za poboljšanje procedura rada

Metric: Velocity

Question(s) answered

- What is the average delivery capacity of the team per unit of time?
- Is the team delivering at a steady rate?

Description

- Empirical measurement of the quantity of work the team delivers per unit of time, for forward-facing steering

Value

- Provides a trailing indicator of variation in the team's delivery performance
- Provides data points to create leading indicators to predict the length of time the team will need to complete a given scope or the amount of scope the team can deliver in a given length of time

Dependencies

- Approach: any
- Process model: time-boxed
- Delivery mode: discrete project

Success factors

- The team completes some number of production-ready units of work per time-boxed iteration.
- The team sizes or estimates work items using a consistent scheme and scale throughout the project. This need not be (and usually isn't) comparable to the schemes and scales used by other teams.

Adaptivni pristup

Ne postoji WBS - precizno planirana lista taskova, ali ni precizirani vremenski okvir za završetak projekta

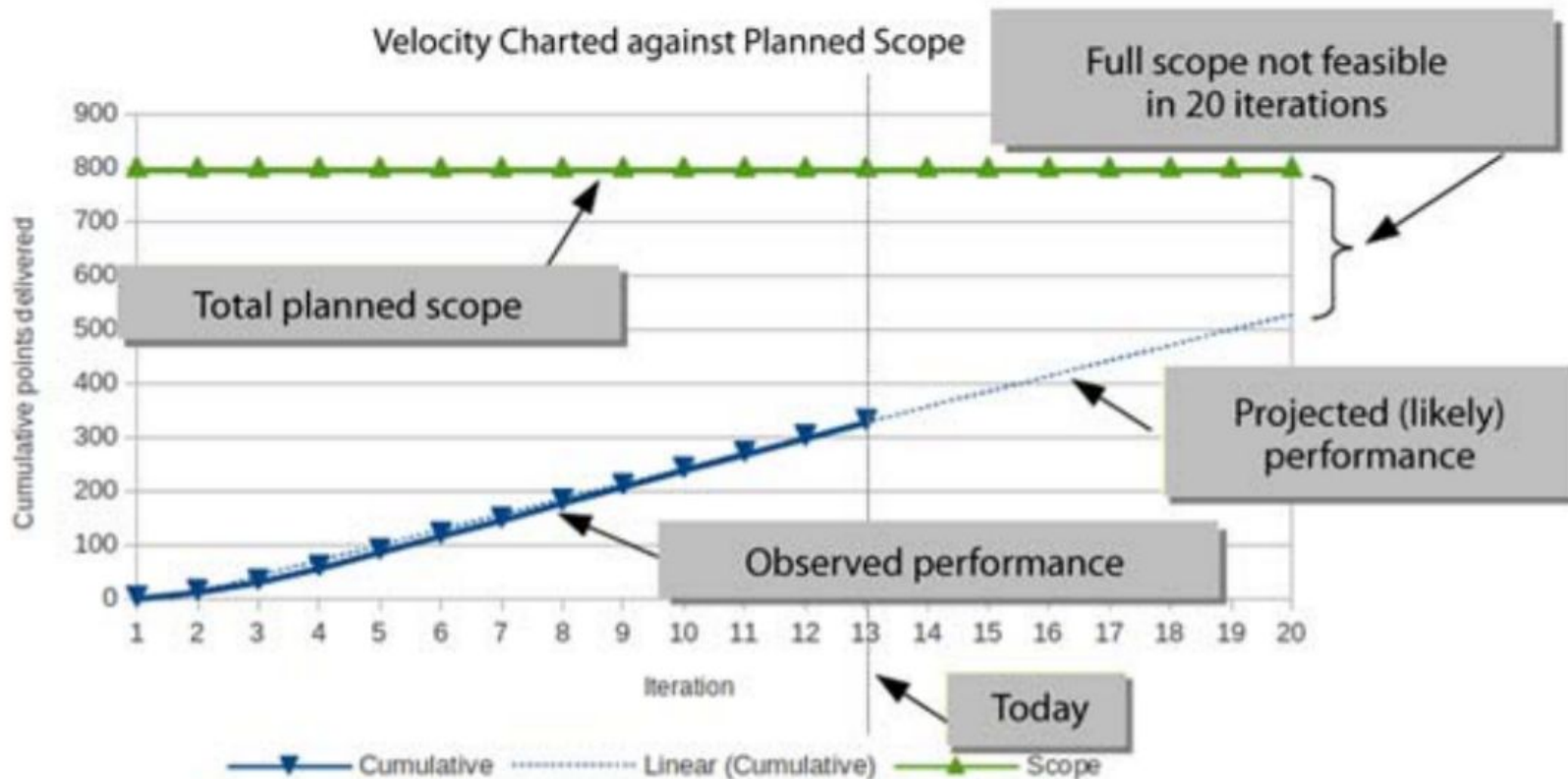
Međutim, i u ovim uslovima potrebno je imati način da se procijeni koliko posla tim može da završi kao i potrebno vrijeme

Serijski mjerenja mogu pružiti leading indikator o performansama tima

Učinak tima u posljednjih nekoliko iteracija daje jasnu sliku o učinku u narednoj iteraciji

Informaciona, dijagnostička i motivaciona upotreba

Adaptivni pristup 2



Cycle time

Cycle time je vrijeme između početka rada na jednom work item-u (piece of functionality) i trenutka završetka

Potrebna je izvjesna uniformnost work item-a

Može da se koristi u tradicionalnom i adaptivnom pristupu, za sve proces modele

Ipak, najočiglednija je upotreba u adaptivnom pristupu sa work item-ima približno jednakog obima

Metric: Cycle time

Question(s) answered

- What is the mean time needed to complete a single work item (possibly by category)?
- How consistent is the team's delivery performance?
- Which work items might have common characteristics that lead to delivery problems?

Description

- Projection of the team's likely future delivery performance based on empirical measurement

Value

- Provides a leading indicator of the team's delivery performance:
 - For backward-facing tracking of compliance with the plan (traditional development)
 - For forward-facing steering toward the project vision (adaptive development)
 - For capacity planning in ongoing support situations
- Can provide early warning of potential delivery risks, for either traditional or adaptive development
- Can help distinguish between common-cause variation and special-cause variation in task completion times, for purposes of process improvement

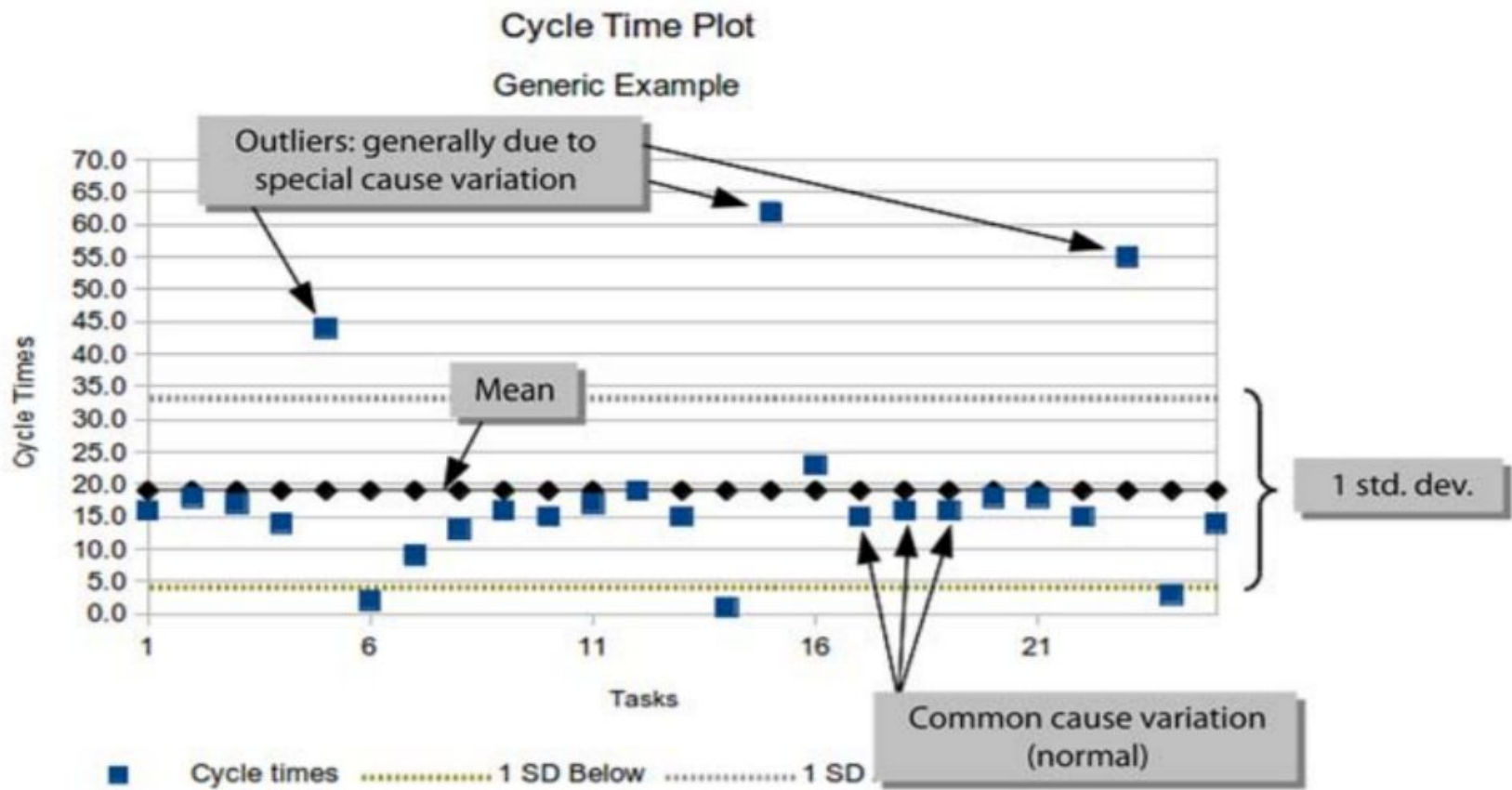
Dependencies

- Approach: any
- Process model: any
- Delivery mode: any

Success factors

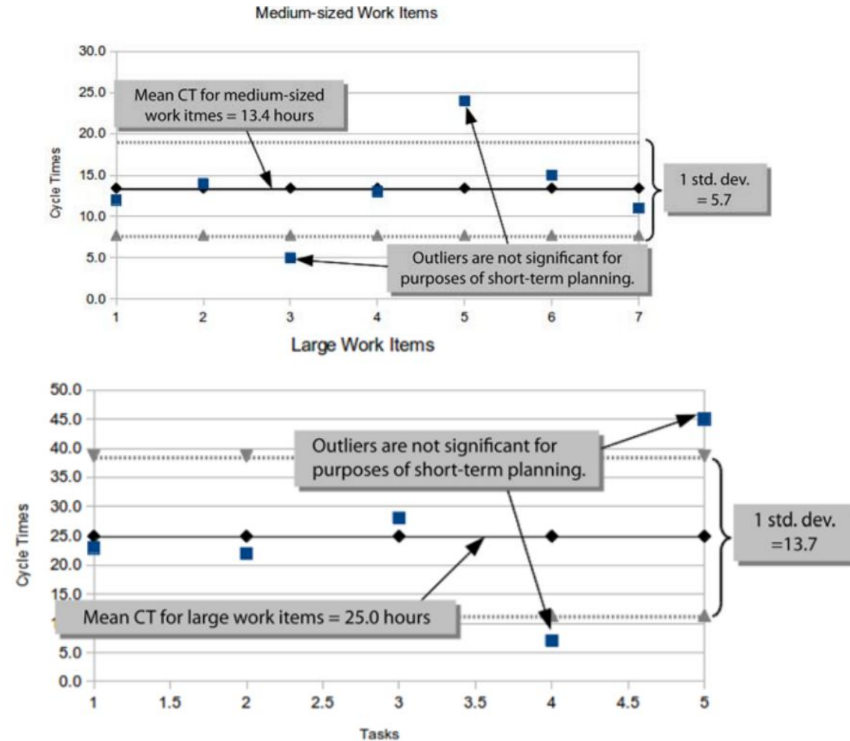
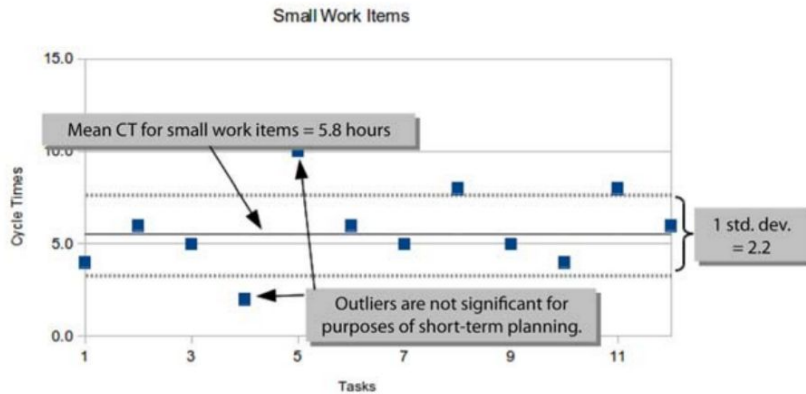
- Consistent definition of the start and end of each category of work item.

Primjer



Primjer 2, neuniformni work item-i

Work item-u podijeljni u kategorije: 40 small + 12 medium + 8 large. Procijeniti broj sati potrebnih za završetak projekta.



Burn chart

Leading indikator zasnovan na empirijskoj procjeni performansi u smislu konstantnog povećanja production-ready modula sistema

Učinak tima u jednoj iteraciji je velocity, pojedinačno predstavljaju trailing indikatore. Prikaz u vidu burn chart je leading indikator.

Burn-up chart pokazuje količinu urađenog posla

Burn-down chart pokazuje količinu preostalog posla

Metric: Burn chart

Question(s) answered

- Is the team likely to meet delivery targets?
- How much time will the team require to complete the planned scope?
- How much of the planned scope can the team complete by a given date?

Description

- Projection of the team's likely future delivery performance based on empirical measurement, for forward-facing or backward-facing steering

Value

- Provides a leading indicator of the team's delivery performance
- Can provide an early warning of potential delivery risks

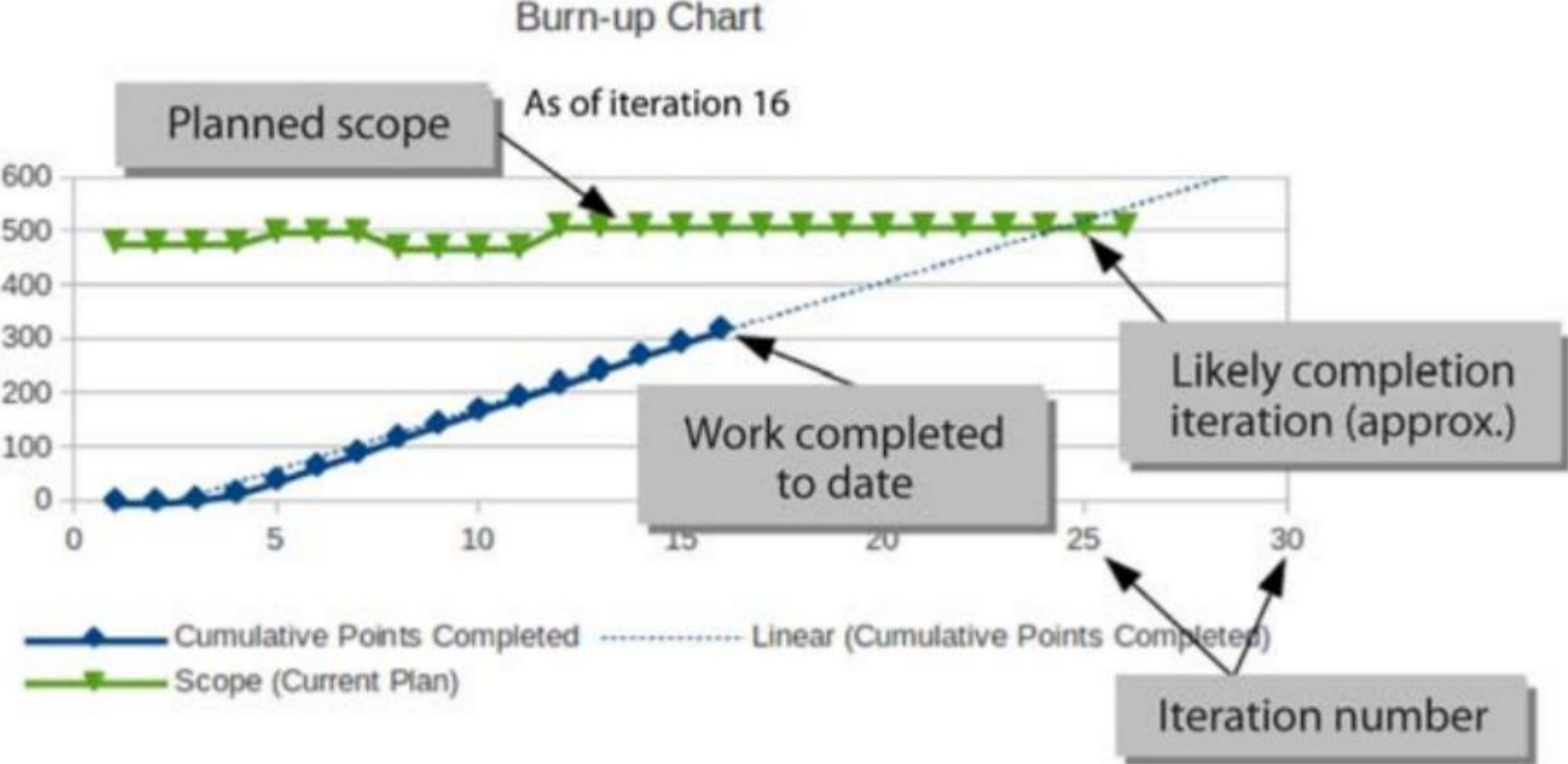
Dependencies

- Approach: any
- Process model: any
- Delivery mode: discrete project

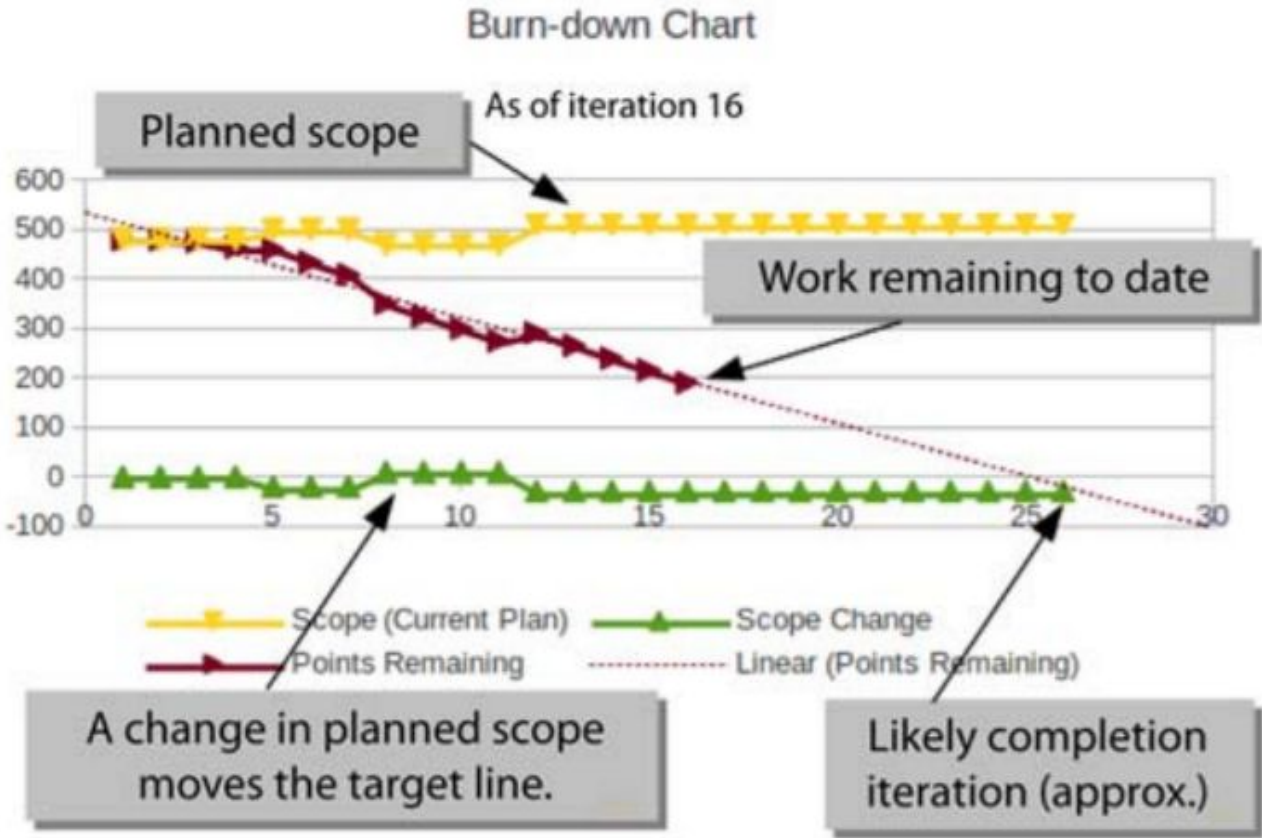
Success factors

- Consistent understanding of what constitutes a “work item” (by whatever name)
- Explicit, demonstrable, binary definition of what it means to declare a work item “complete”

Burn-up chart



Burn-down chart



Throughput

Broj value unit-a proizvedenih u jedinici vremena

Value unit je work item:

1. Work package
2. User story
3. Ili nešto drugo, zavisno od konteksta

Metric: Throughput

Question(s) answered

- How much software can the team or organization deliver in a given time?
- Does the team or organization deliver results at a consistent rate?

Description

- Empirical observation of the quantity of product delivered and available to customers per unit of time (per month, quarter, release, and so on)

Value

- Projections based on historical observations of throughput provide an accurate forecast of future delivery performance.
- If stakeholders understand the financial value of software features, they can use throughput to forecast revenue.

Dependencies

- Approach: any
- Process model: any
- Delivery mode: any

Success factors

- A realistic and honest definition of “delivered.” Deployment to a staging or test environment isn’t sufficient, because customers can’t access the product there.
- Consistent tracking of cycle time

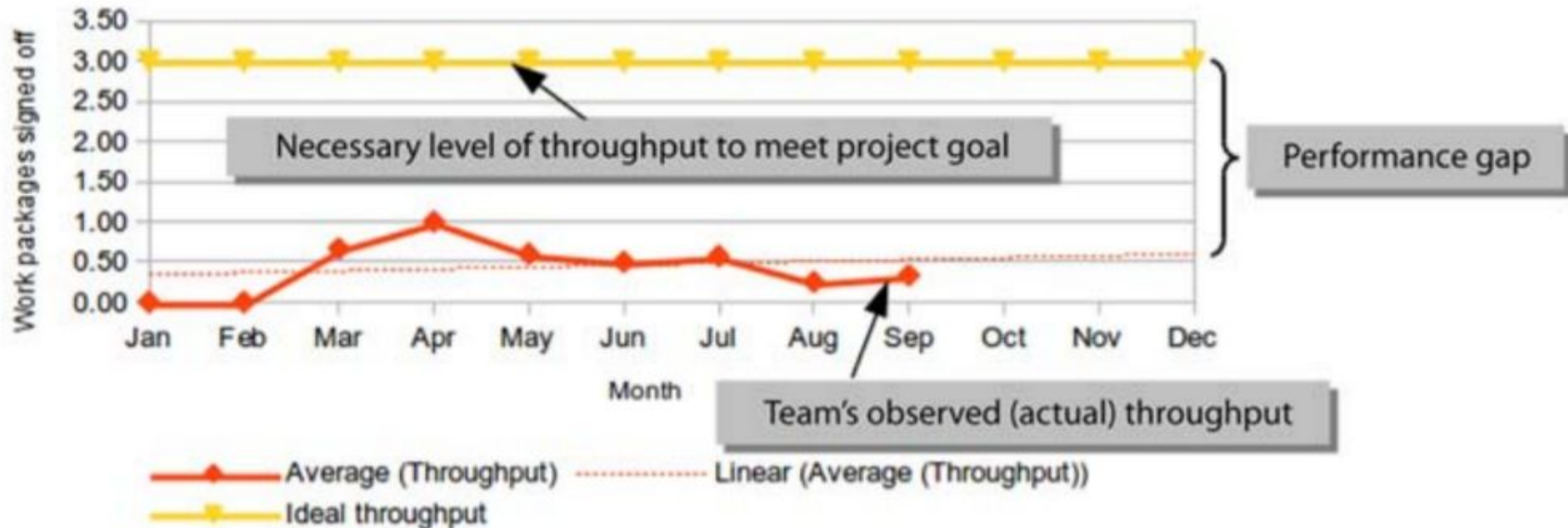
Primjer

Month	Work packages signed off	Average (Throughput)	Ideal throughput	cumulative delivery	Ideal cumulative delivery
Jan	0	0.00	3.00	0	3
Feb	0	0.00	3.00	0	6
Mar	2	0.67	3.00	2	9
Apr	4	1.00	3.00	6	12
May	3	0.60	3.00	9	15
Jun	3	0.50	3.00	12	18
Jul	4	0.57	3.00	16	21
Aug	2	0.25	3.00	18	24
Sep	3	0.33	3.00	21	27
Oct			3		30
Nov			3		33
Dec			3		36

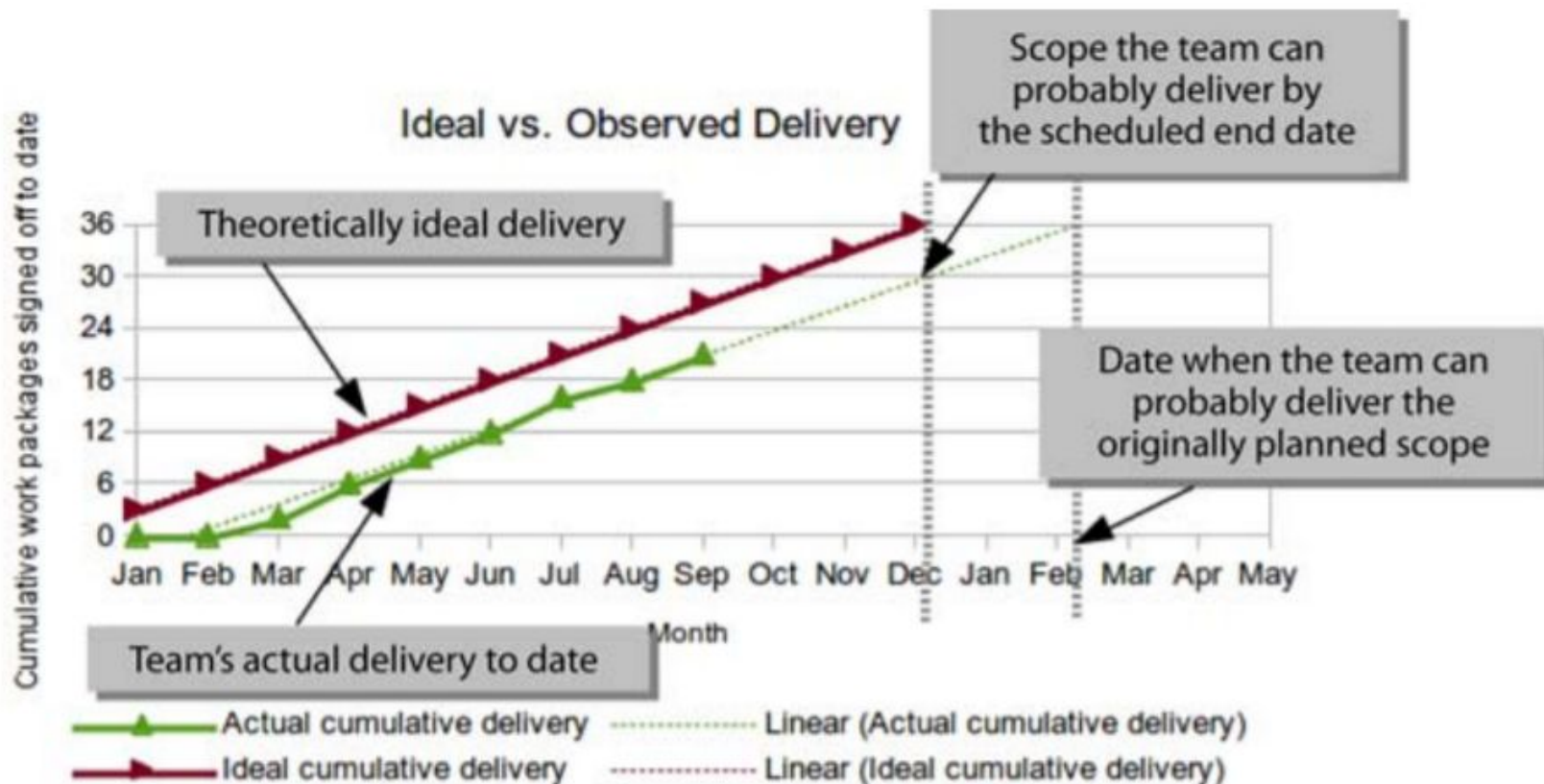
Project plan

Primjer, nastavak

Ideal vs. Observed Throughput per Month



Primjer, nastavak 2



Cumulative flow

Pokazuje utrošak vremena za svaku fazu, čak i kada se primjenjuje rapid-delivery pristup (samo tri faze: ready, in progress, done)

Metric: Cumulative flow

Question(s) answered

- Where are the bottlenecks in the process?
- At what points do you have a buildup of work-in-process inventory (interim artifacts that represent incomplete work)?
- How deep are the queues feeding into value-add steps?
- Where are the largest components of cycle time?
- At what points is the workload unbalanced?

Description

- Visual representation of all the work done and in process to date
- Value
- Exposes delivery issues and process-improvement opportunities at a glance
- Provides direction for root-cause analysis

Dependencies

- Approach: any
- Process model: any
- Delivery mode: any

Success factors

- Queues and value-add states are identified.
- Accurate tracking of cycle time per state

Primjer, tradicionalni pristup

Faze: Requirements, Architecture and Design, Construction, Testing, Deployed

Ne želimo nagomilavanje, na primjer specifikacija zahtjeva, kod koji nije testiran itd.

Regioni na CFD (cumulative flow diagram) u idealnom slučaju su približno jednake površine, svaki region predstavlja jednu fazu

Primjer, nastavak

