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# Software Development Project Management

## Part 2



Tracking How Well are We Doing

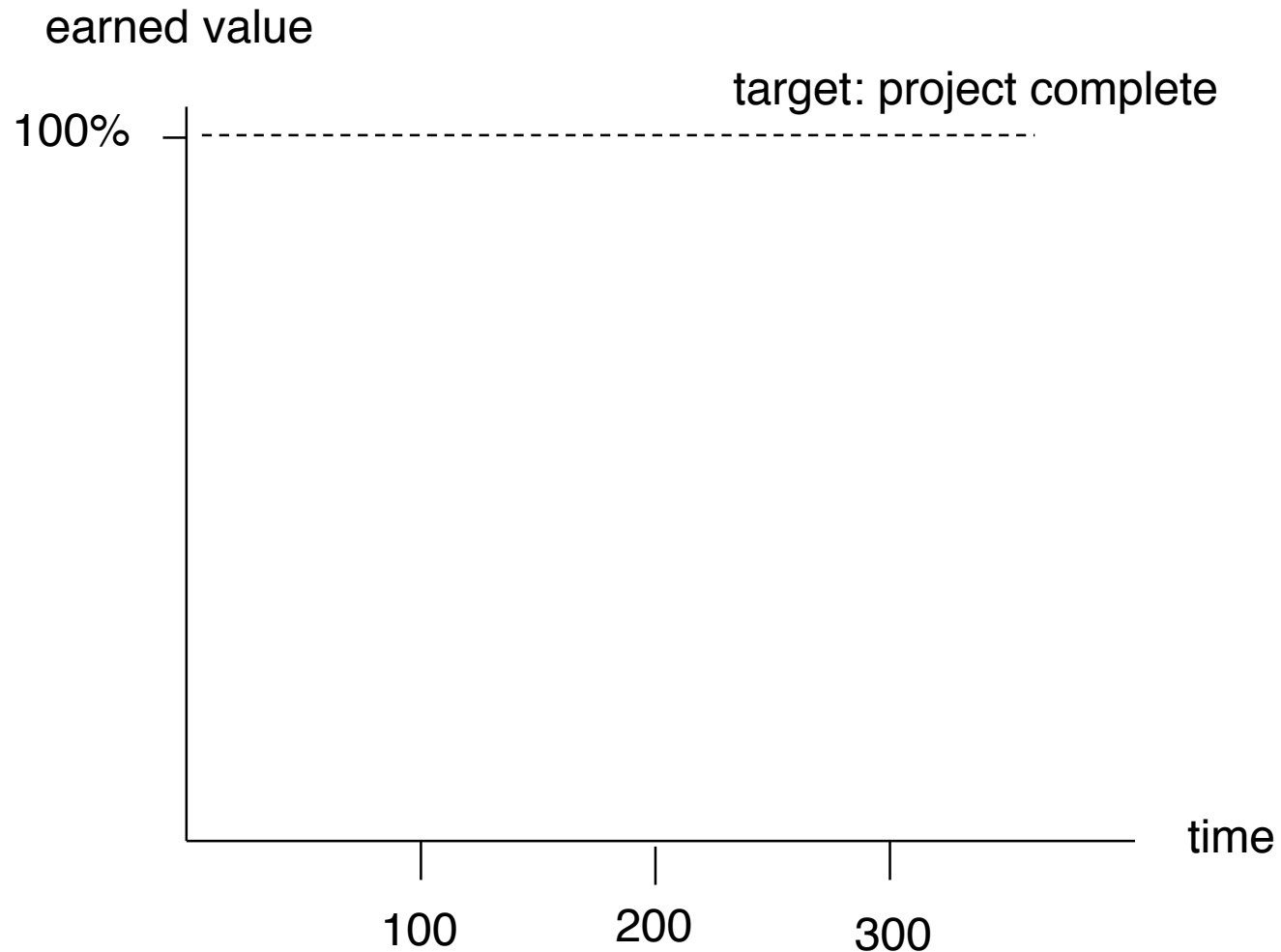
# Earned-Value Tracking Method/Chart

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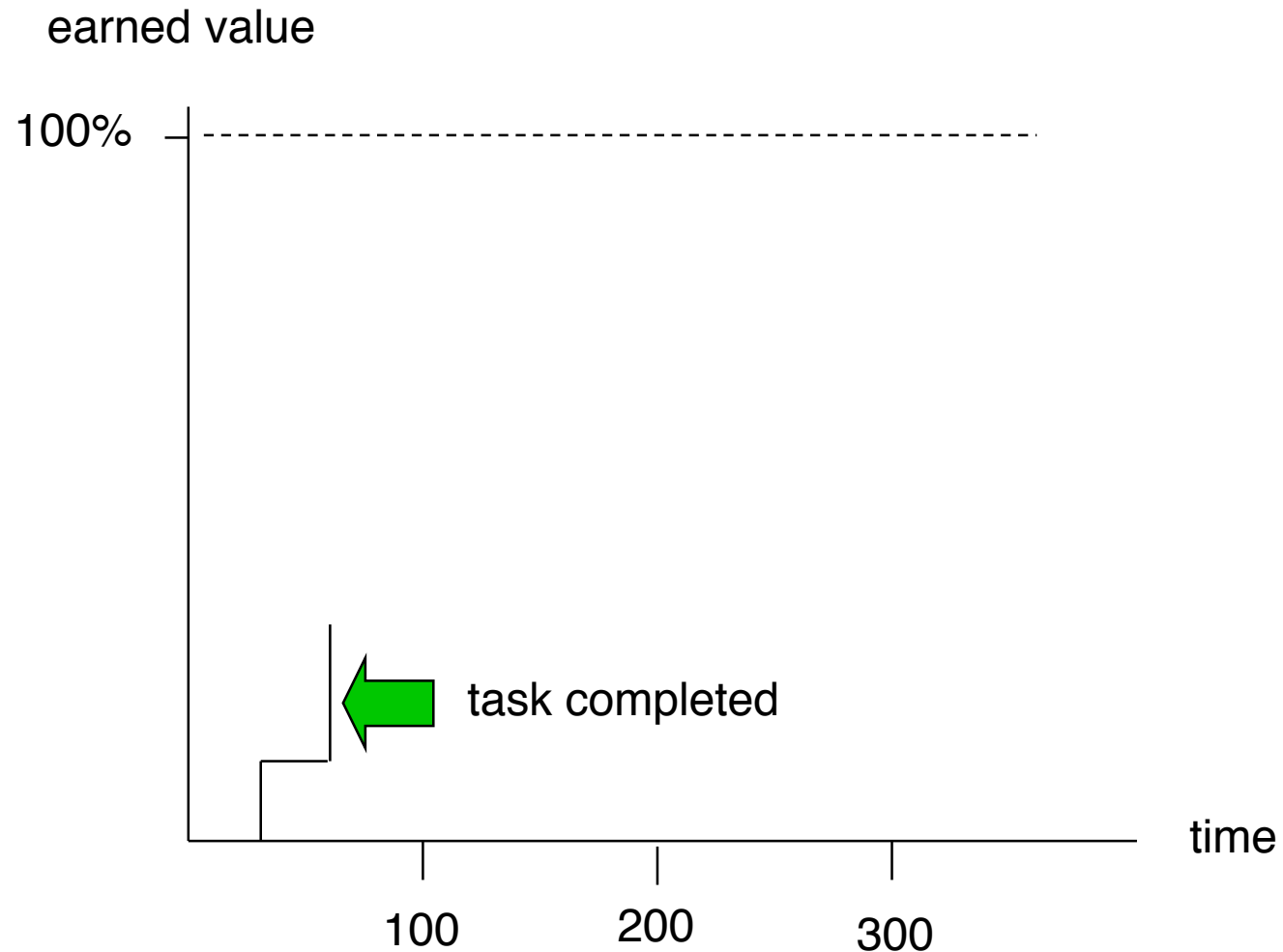
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- One way to track how close to “done” the project is:
  - As key parts of a product are **completed**, the product “earns value”.
  - Express earned value in % of total value or \$ (= % x budgeted amount for task)
  - Some variations allow **partial credit**, others don't.

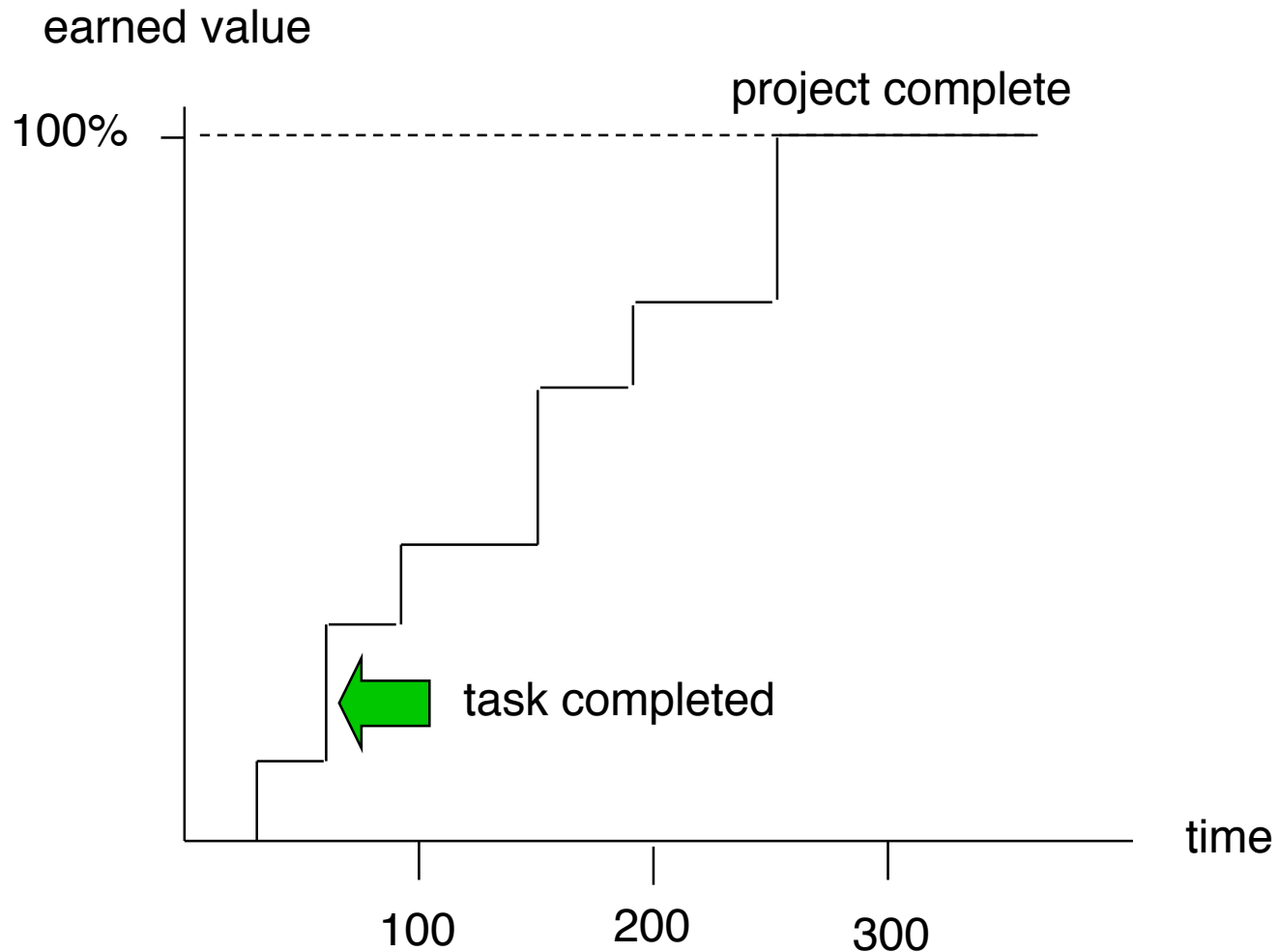
# Earned Value vs. Time



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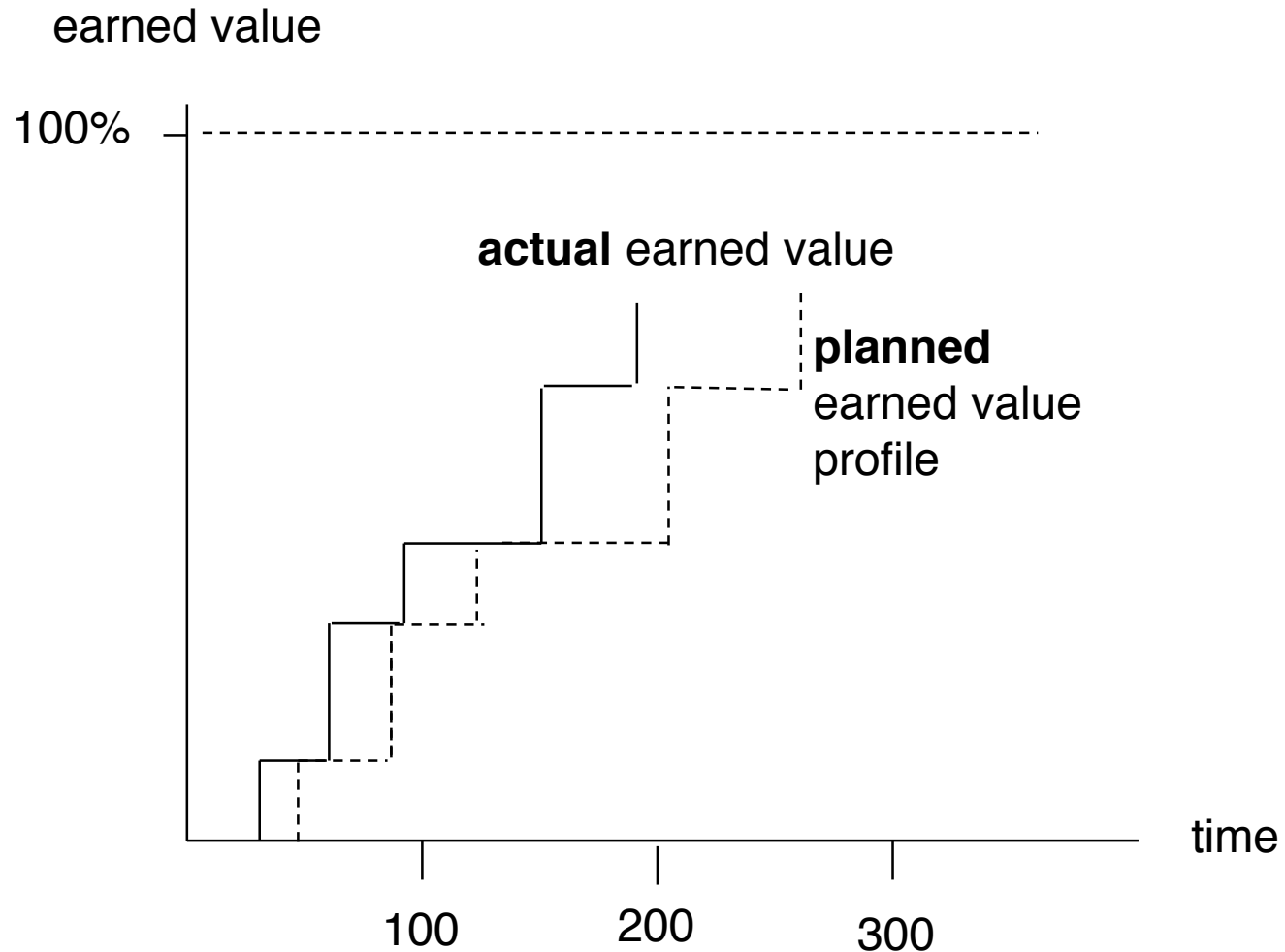
# Use of Earned Value Diagram

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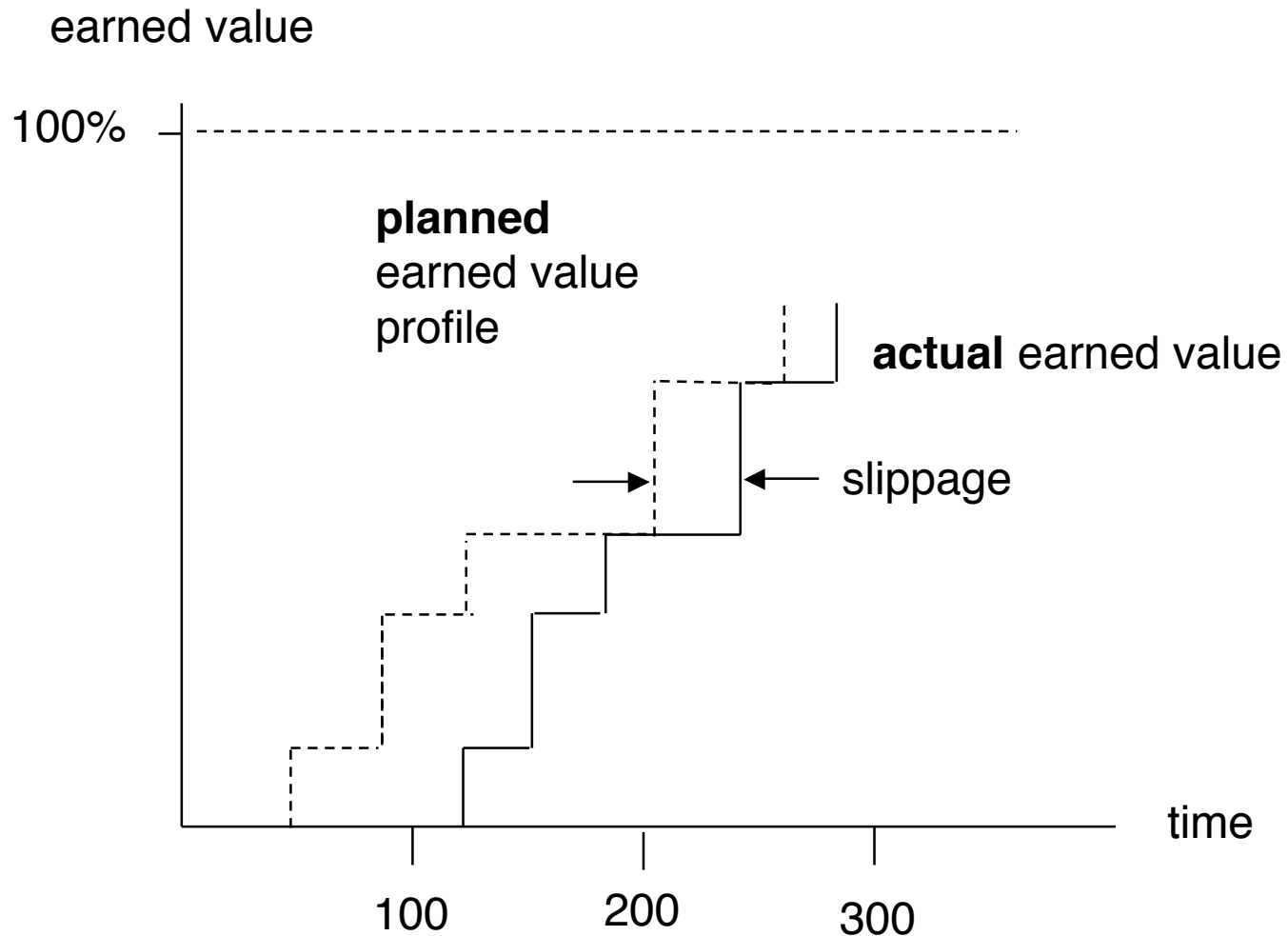
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- Based on project Gantt chart, create a profile **plan** of earned value
- Track **actual** earned value against plan
- Use **discrepancies** to make projections about delivery dates, cost, etc.

# Project Ahead of Schedule



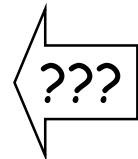
# Project Behind Schedule



# Earned Value with sub-tasks in \$ (% x budget)

## Earned Value Calculation Example

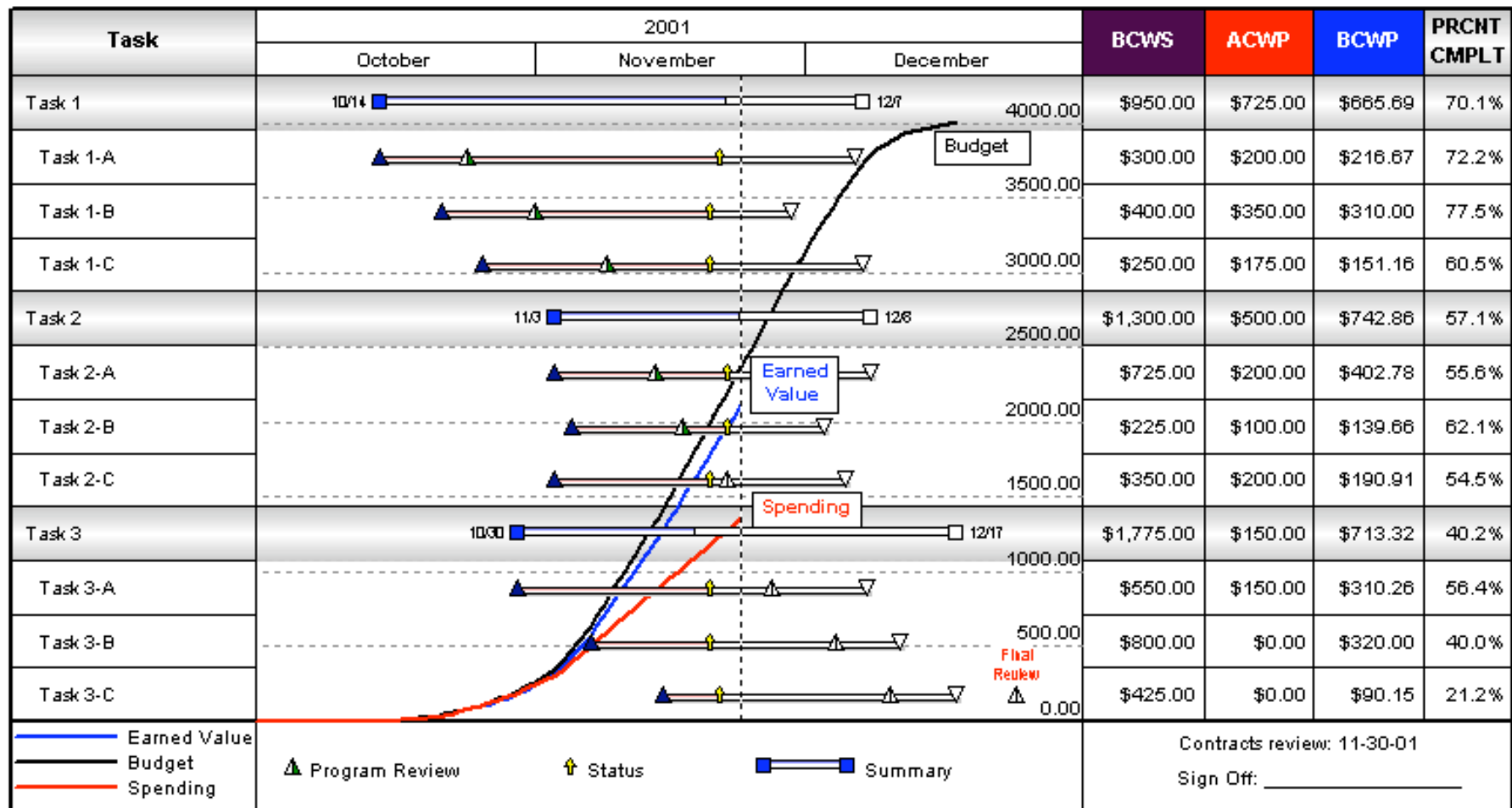
| Task     | 2000    |     |     |     |     |     |     |     |     |     |     |     | Budget     | Percent Complete | Earned Value |
|----------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|------------------|--------------|
|          | Jan     | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |            |                  |              |
| Task 1   |         |     |     |     |     |     |     |     |     |     |     |     |            | 100.0%           | \$0.00       |
| Task 1-1 |         |     |     |     |     |     |     |     |     |     |     |     | \$333.00   | 100.0%           | \$333.00     |
| Task 1-2 |         |     |     |     |     |     |     |     |     |     |     |     | \$444.00   | 100.0%           | \$444.00     |
| Task 1-3 |         |     |     |     |     |     |     |     |     |     |     |     | \$555.00   | 100.0%           | \$555.00     |
| Task 1-4 |         |     |     |     |     |     |     |     |     |     |     |     | \$55.00    | 100.0%           | \$55.00      |
| Task 2   |         |     |     |     |     |     |     |     |     |     |     |     |            | 80.1%            | \$0.00       |
| Task 2-1 |         |     |     |     |     |     |     |     |     |     |     |     | \$434.00   | 100.0%           | \$434.00     |
| Task 2-2 |         |     |     |     |     |     |     |     |     |     |     |     | \$333.00   | 65.0%            | \$216.45     |
| Task 2-3 |         |     |     |     |     |     |     |     |     |     |     |     | \$111.00   | 100.0%           | \$111.00     |
| Task 2-4 |         |     |     |     |     |     |     |     |     |     |     |     | \$333.00   | 50.0%            | \$166.50     |
| Task 3   |         |     |     |     |     |     |     |     |     |     |     |     |            | 56.7%            | \$0.00       |
| Task 3-1 |         |     |     |     |     |     |     |     |     |     |     |     | \$444.00   | 70.0%            | \$310.80     |
| Task 3-2 |         |     |     |     |     |     |     |     |     |     |     |     | \$5,555.00 | 67.5%            | \$3,747.     |
| Task 3-3 |         |     |     |     |     |     |     |     |     |     |     |     | \$666.00   | 37.0%            | \$246.42     |
| BUDGET   | 8000.00 |     |     |     |     |     |     |     |     |     |     |     |            |                  |              |
| BCWP     | 4000.00 |     |     |     |     |     |     |     |     |     |     |     |            |                  |              |
|          | 0.00    |     |     |     |     |     |     |     |     |     |     |     |            |                  |              |



# Example Gantt Chart with Earned Value Overlay

(source: <http://www.kidasa.com/information/solutions/evalue/index.html>)

## Contract Review Earned Value Report



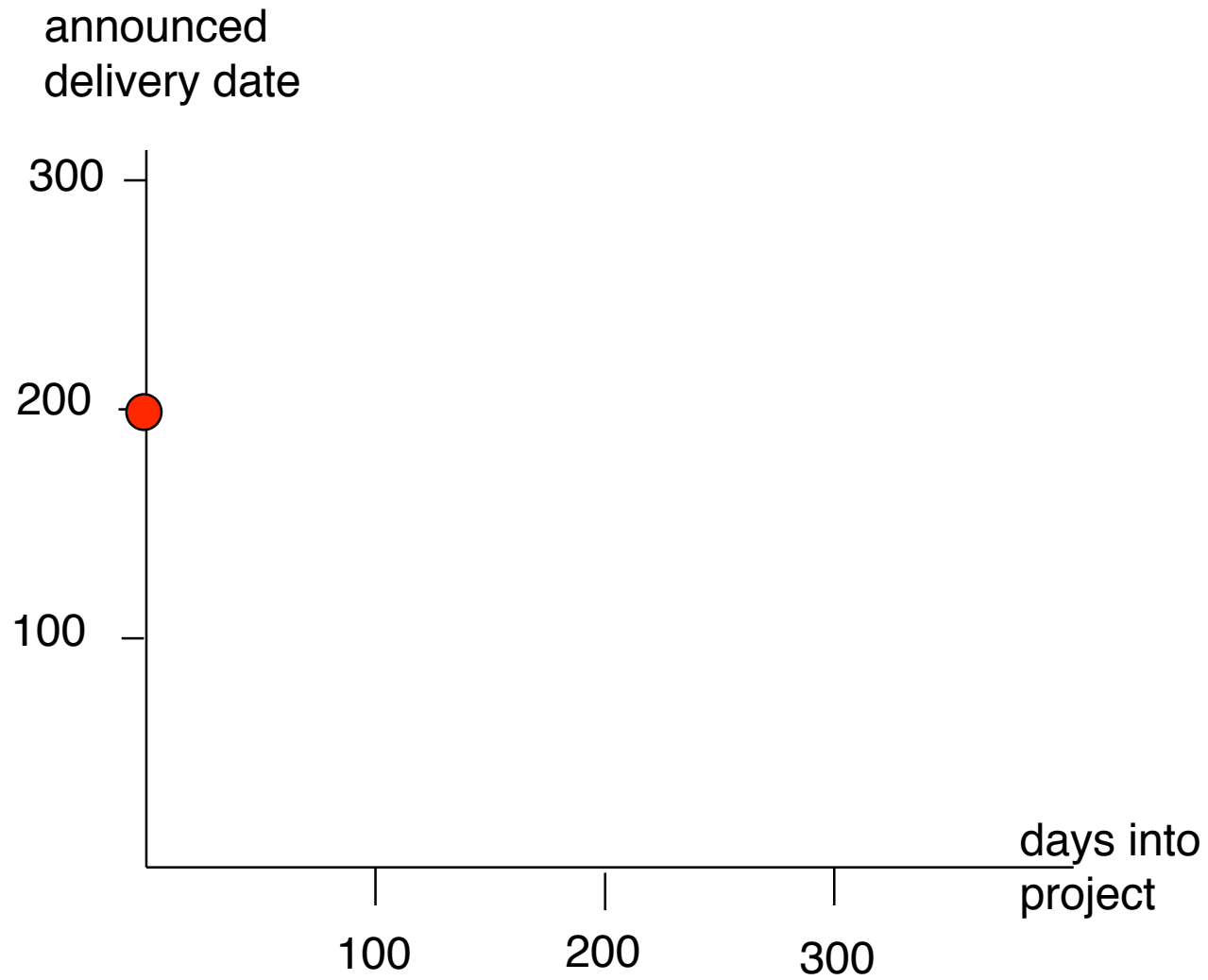
# Implication of Slippage

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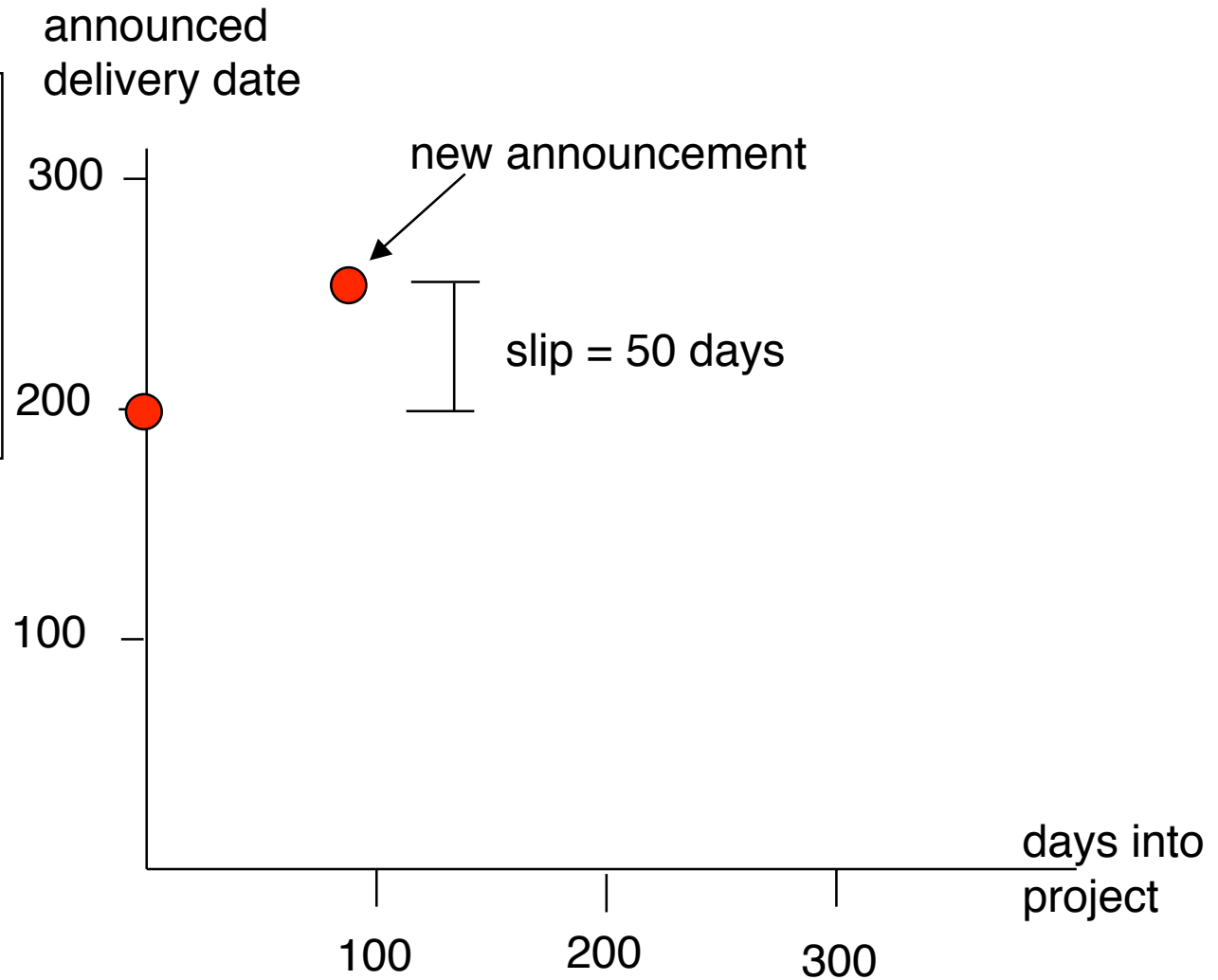
- Slippage in earned value may imply slippage in delivery date, especially if the slipped task is on the critical path.

# Slip Chart

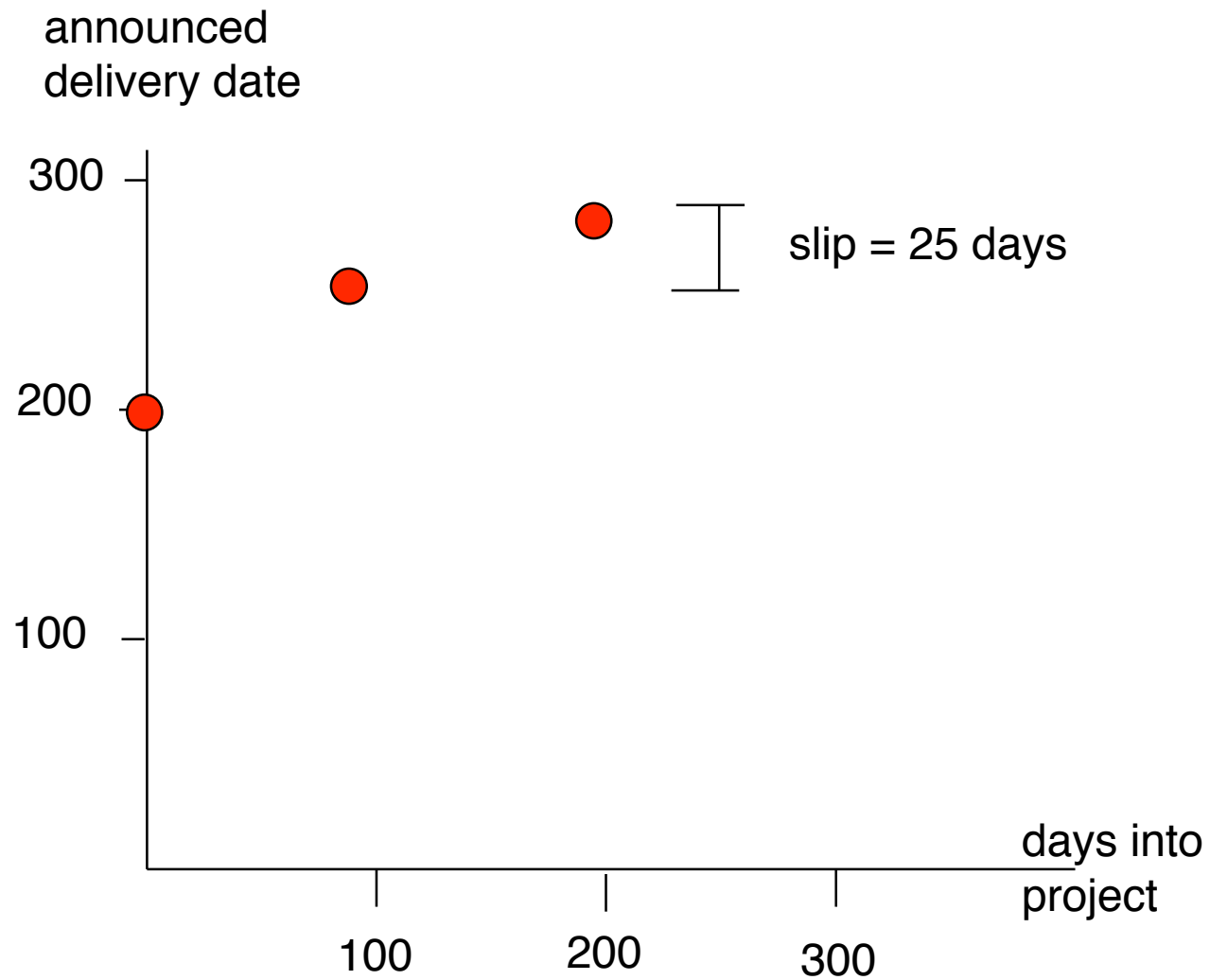


# Slip Chart

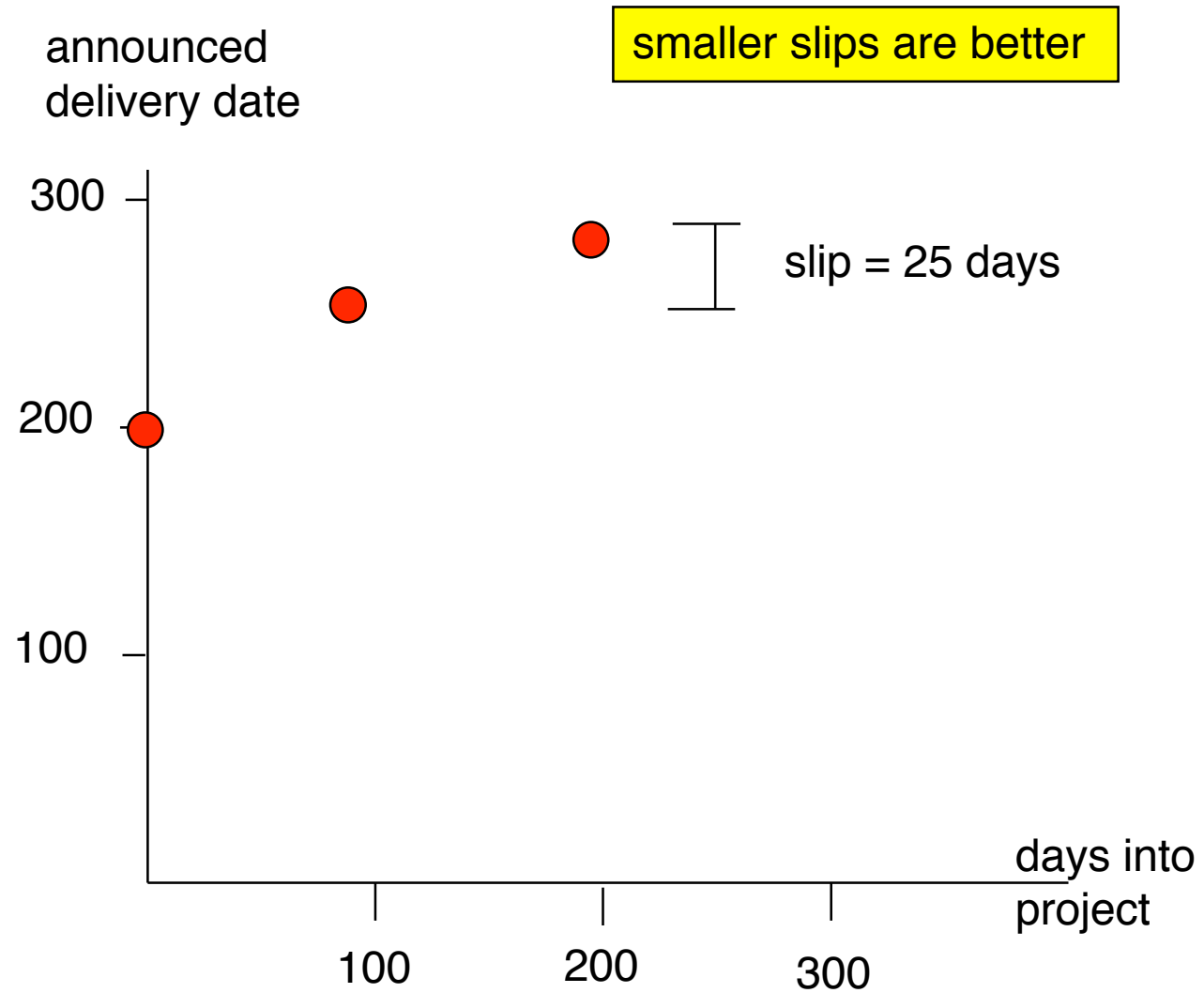
slip = delivery date  
minus  
previously announced  
delivery date



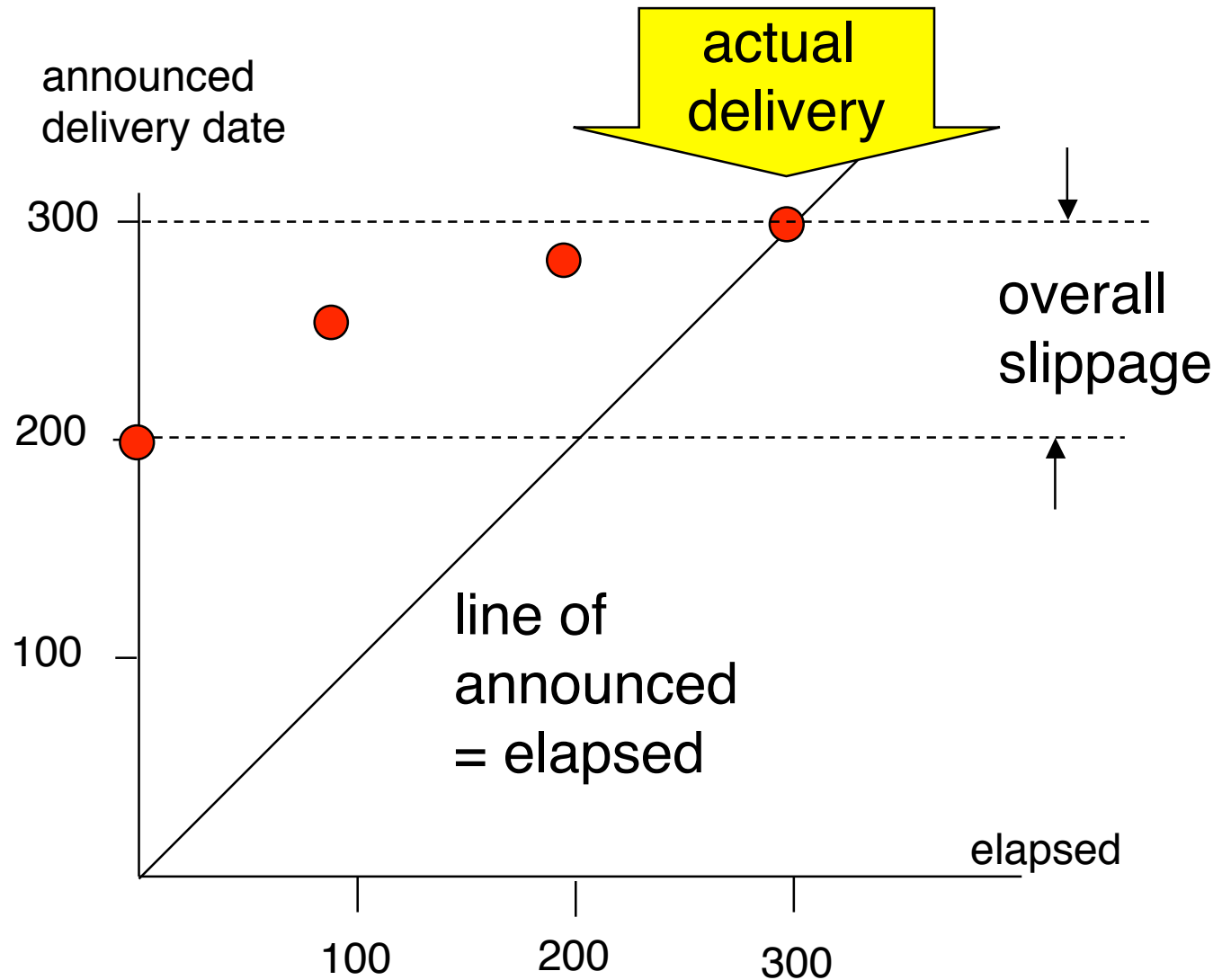
# Slip Chart



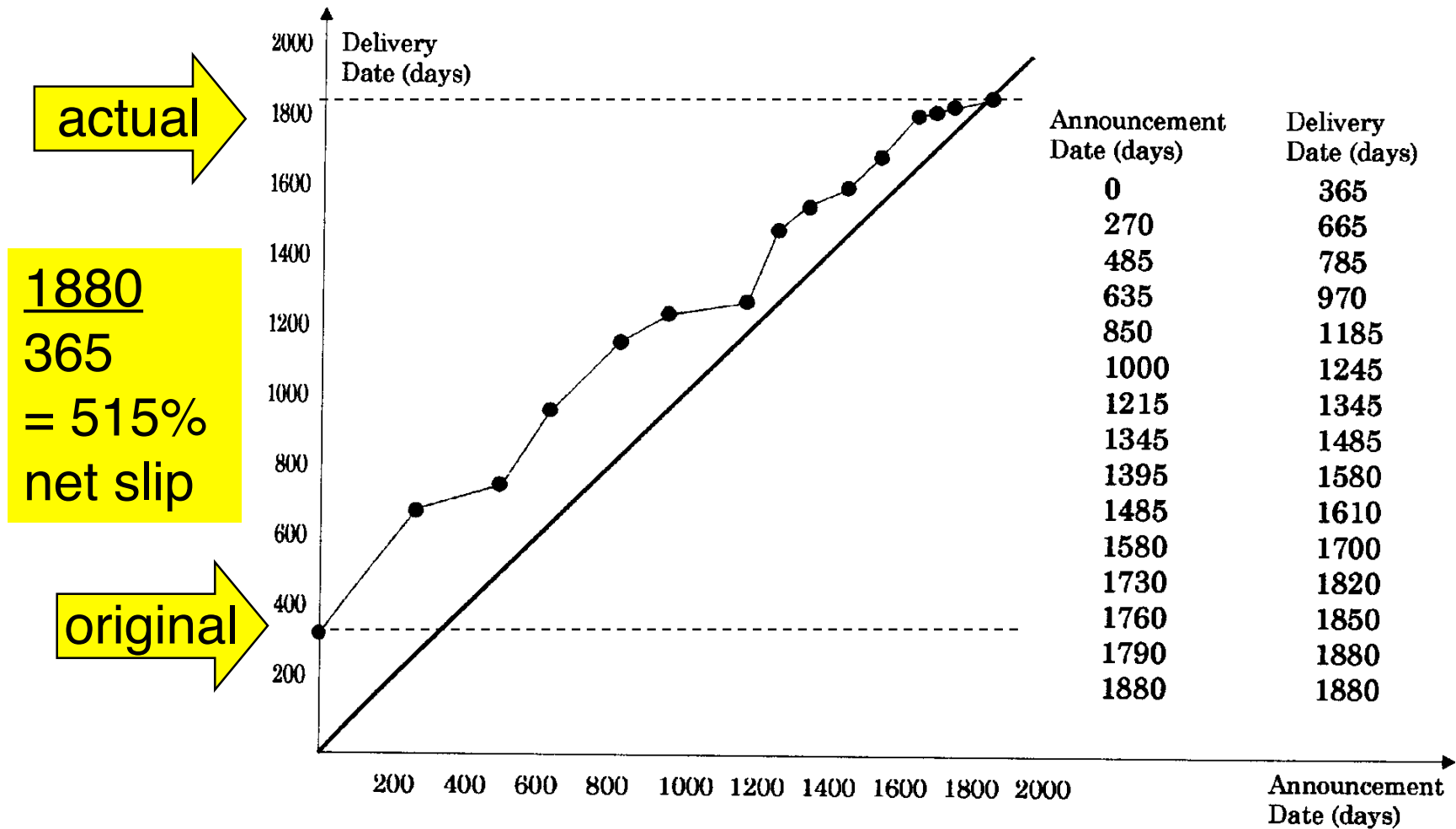
# Slip Chart



# Slip Chart



# Word for Windows 1.0 Slip



source: Dwayne Phillips, The software project manager's handbook, IEEE, 1998.

# Slip vs. Lead

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- slip = delivery date  
minus  
previously announced delivery date
- lead = previously announced delivery date  
minus  
date on which new delivery announced

# Example of Lead

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- lead = previously announced delivery date  
minus  
date on which new delivery announced
- Example:
  - Original delivery date = day 200
  - On day 100 announce new delivery date:  
day 300: *moderate lead*

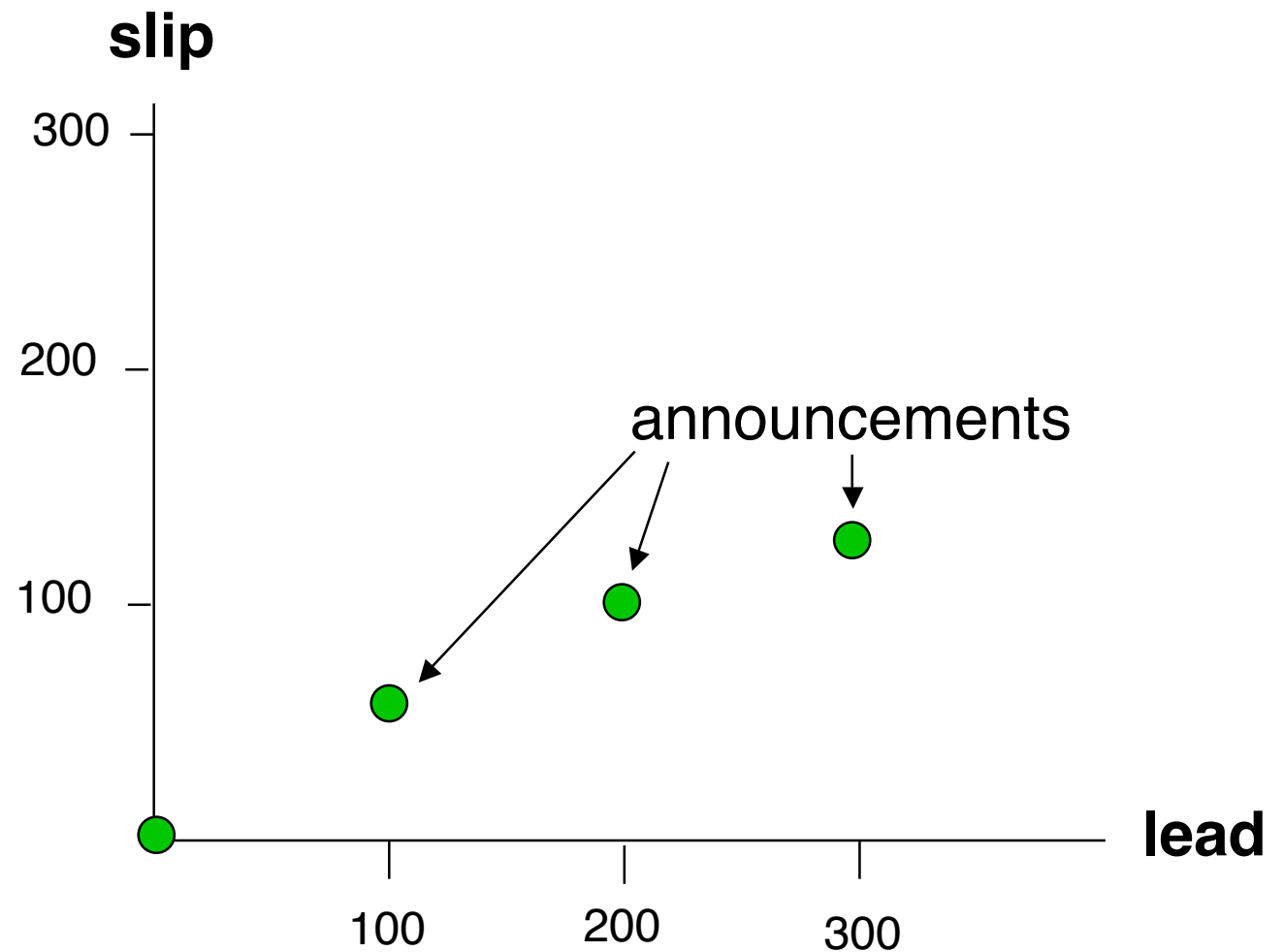
# Example of Lead

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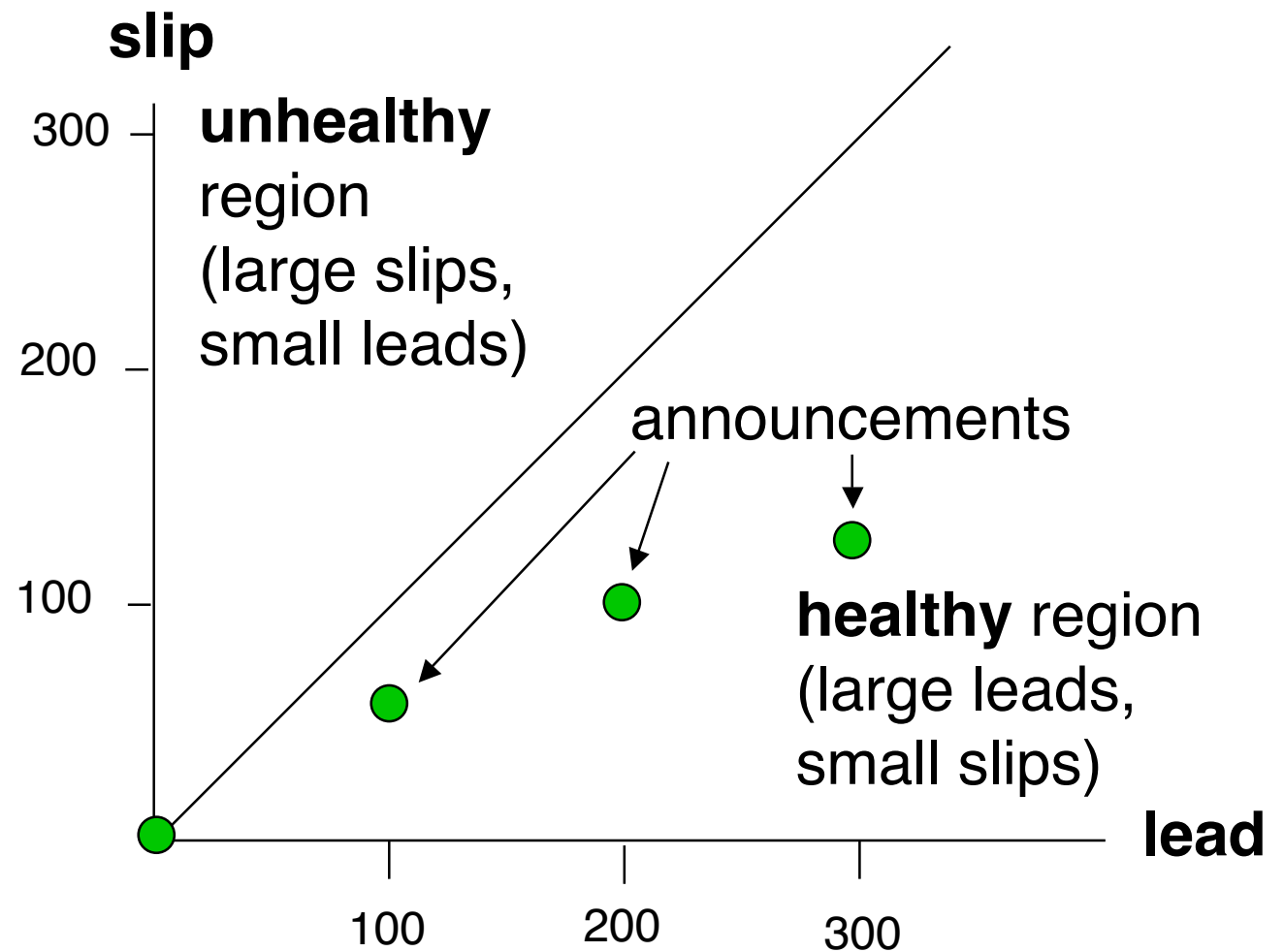
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- lead = previously announced delivery date  
minus  
date on which new delivery announced
- Original delivery date = day 200
- On day **195** announce new delivery date:  
day 300:      very **small lead**
- **Small leads are bad** (but small slips are good)

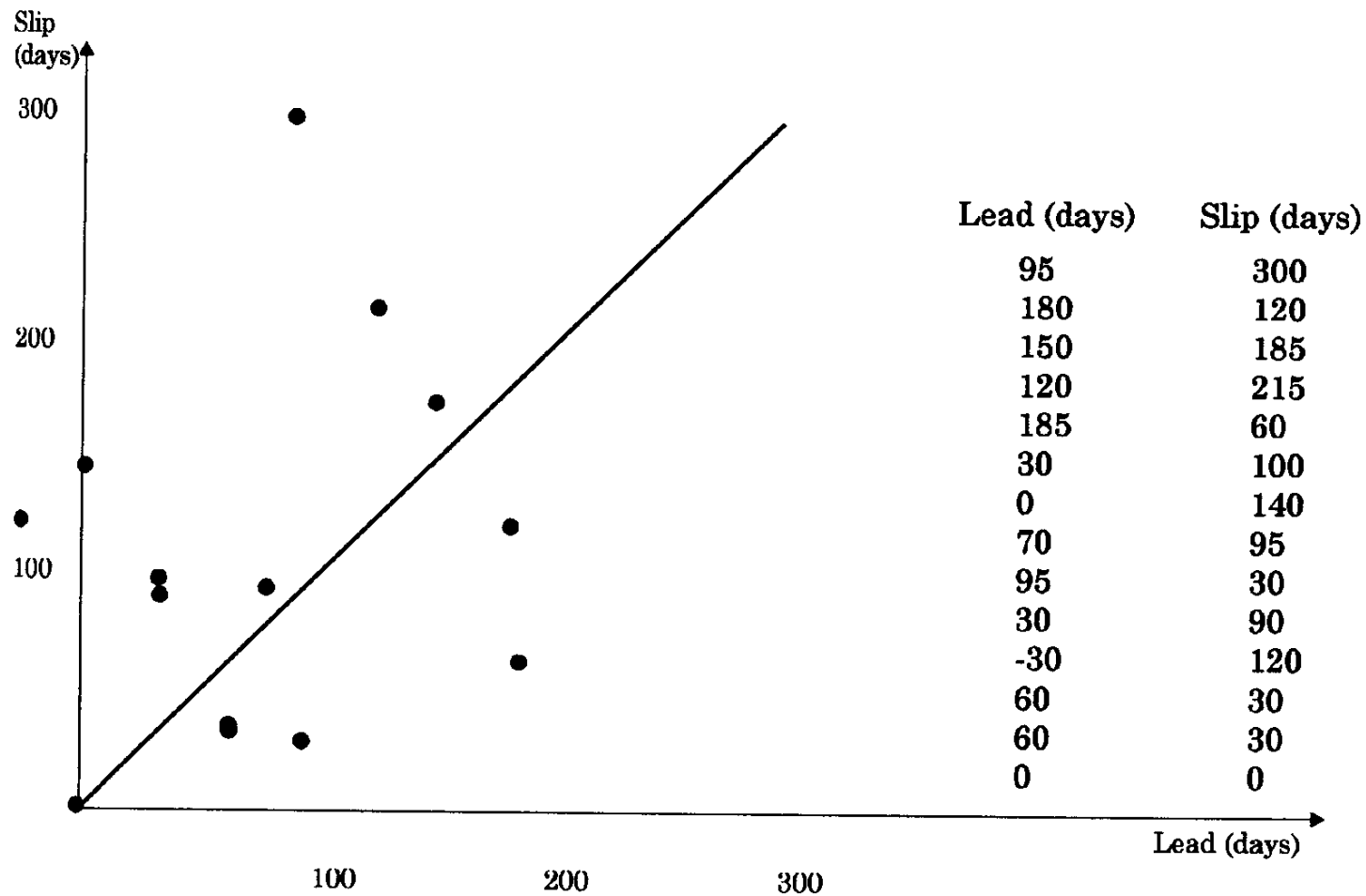
# Slip-Lead Chart (plots slips vs. leads)



# Slip-Lead Chart (plots slips vs. leads)



# Word for Windows 1.0 Slip/Lead



source: Dwayne Phillips, The software project manager's handbook, IEEE, 1998.