



Global Business Services

FMI – PDWeek Event 2-5 CMA Workshop

Planning First: Implementing a New Approach to Corporate Budgeting

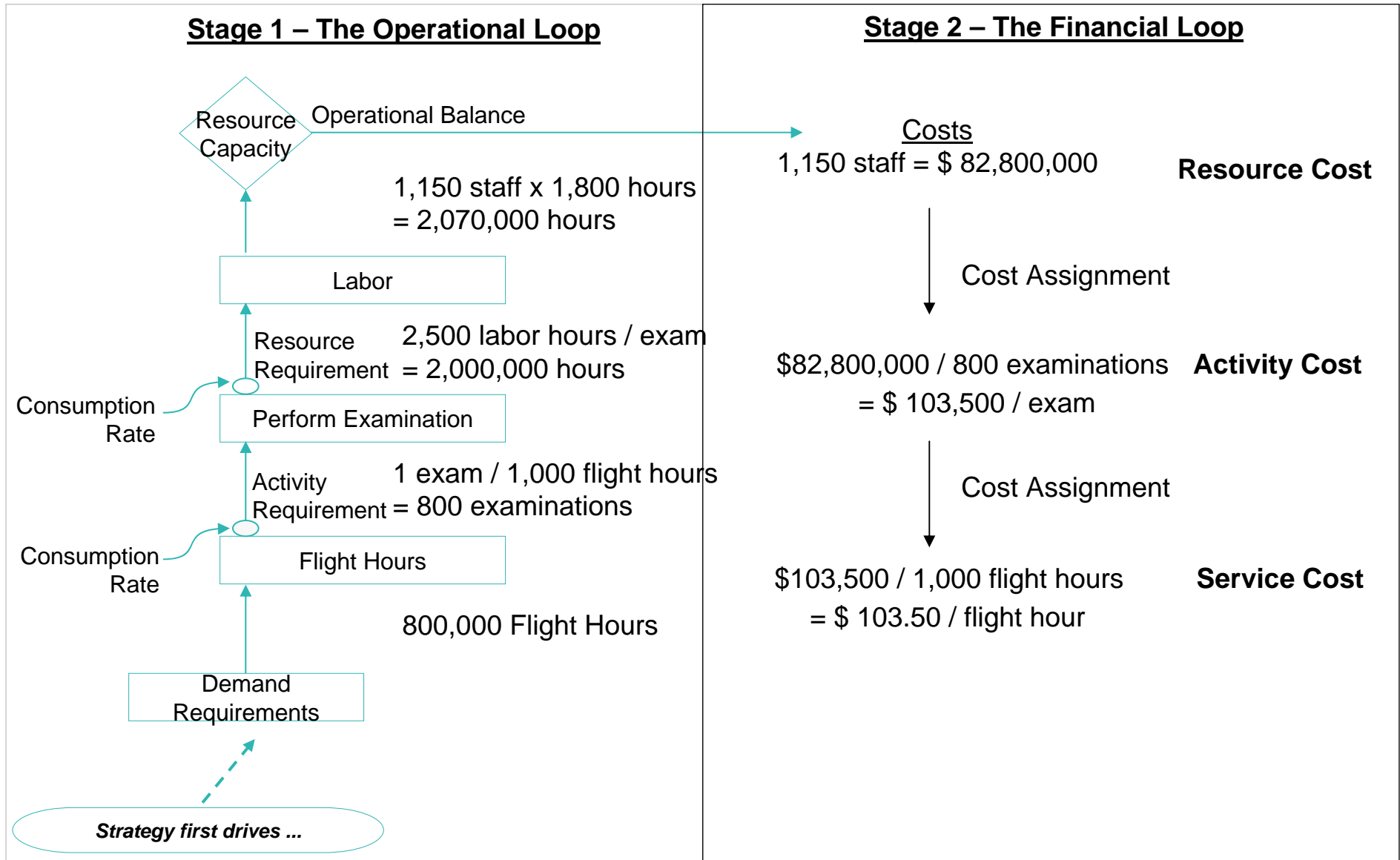
Case Study

Robert Torok
Executive Consultant
IBM Global Business Services, Toronto,
Ontario

Introduction: Basic Facts

- In commercial aviation, a regulator specifies how often aircraft must be inspected, usually based on the number of takeoffs and landings (lets hope these are equal) or flight hours
- In this case study, a certain inspection must be performed every 1,000 flight hours, i.e. one inspection every 1,000 flight hours
- Initial demand = 800,000 flight hours
- The consumption rate can be derived from the wording ‘every flight hour consumes 1/1000th of the examination’
- Each examination requires 2,500 direct labour-hours
- See the next slide for other facts and initial calculations

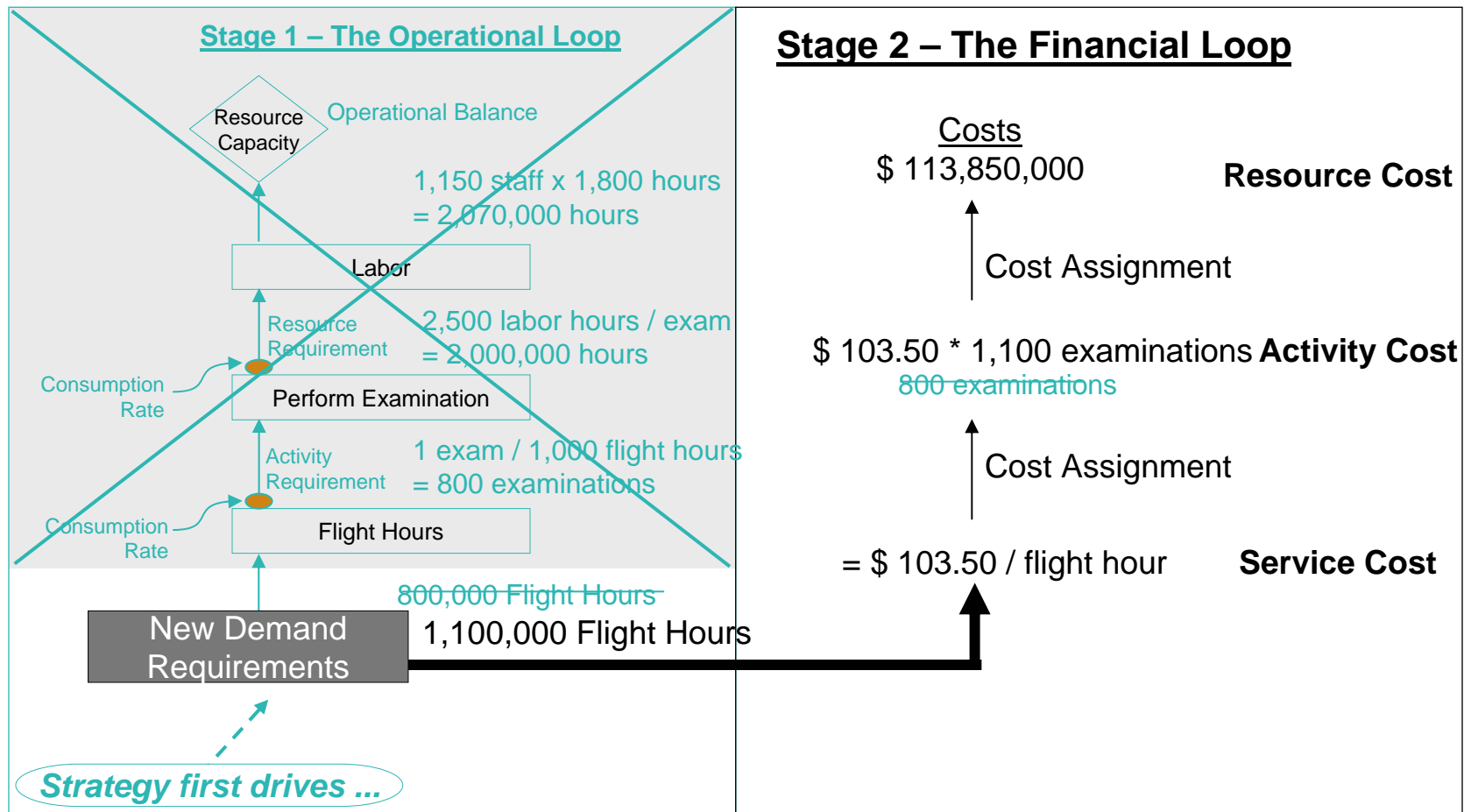
The Airline Example: Obtaining Financial Balance



What Happens When Something Changes?

- Demand jumps unexpectedly to 1,100,000 flight hours
 - Perhaps due to a new market opportunity, regulatory change, failure of a competitor, etc.
- How can the airline calculate resource requirements and costs under this new demand scenario?
- Most organizations extrapolate, as shown on the next slide
- And a new budget figure of \$113,850,000 is derived and used for financial and resource planning
 - Represents a linear increase in the budget, a common scenario

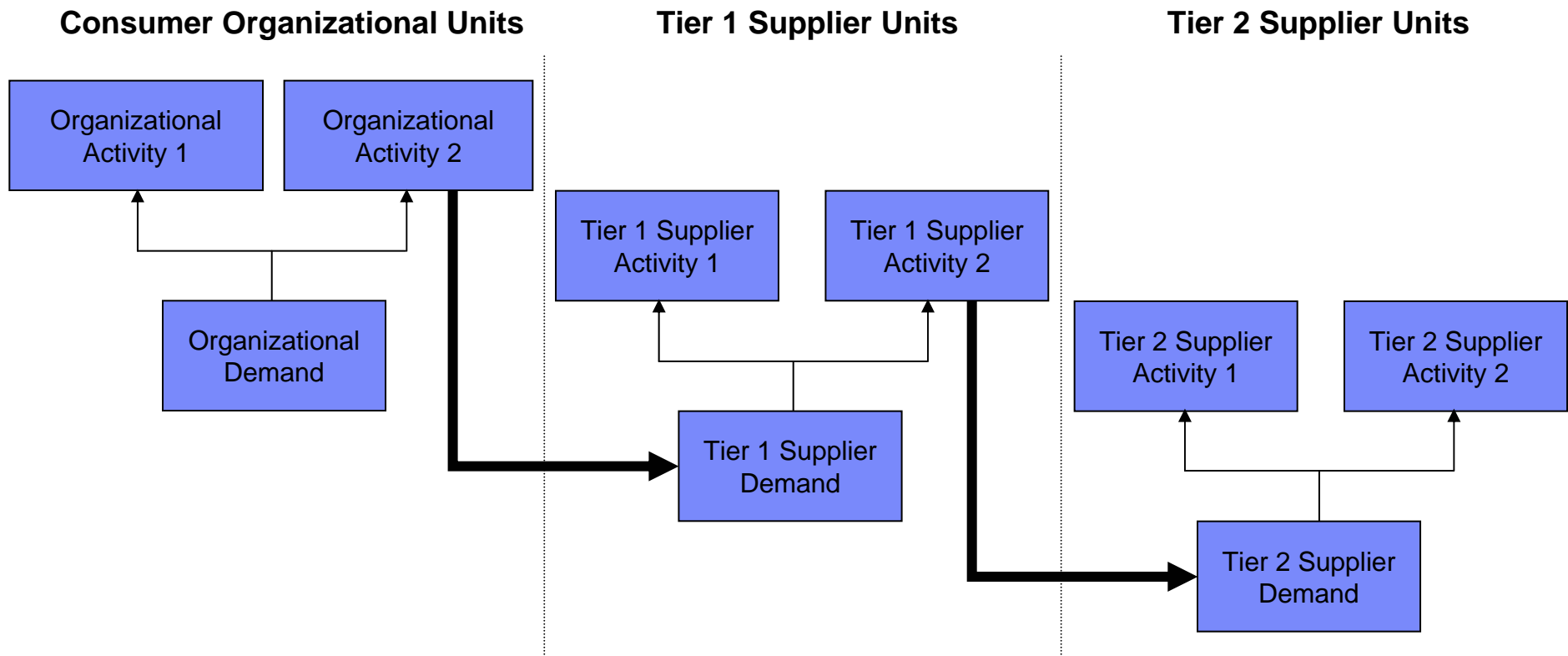
Short-Circuiting the Operational Loop: An Airline Example



And the Problem Is?

- What does extrapolation assume? Do? Not do?
 - Assumes linearity
 - Assumes no 'step function' is violated
 - Does not consider impact of cascading demands
 - Does not assess capabilities of lower tier units or suppliers

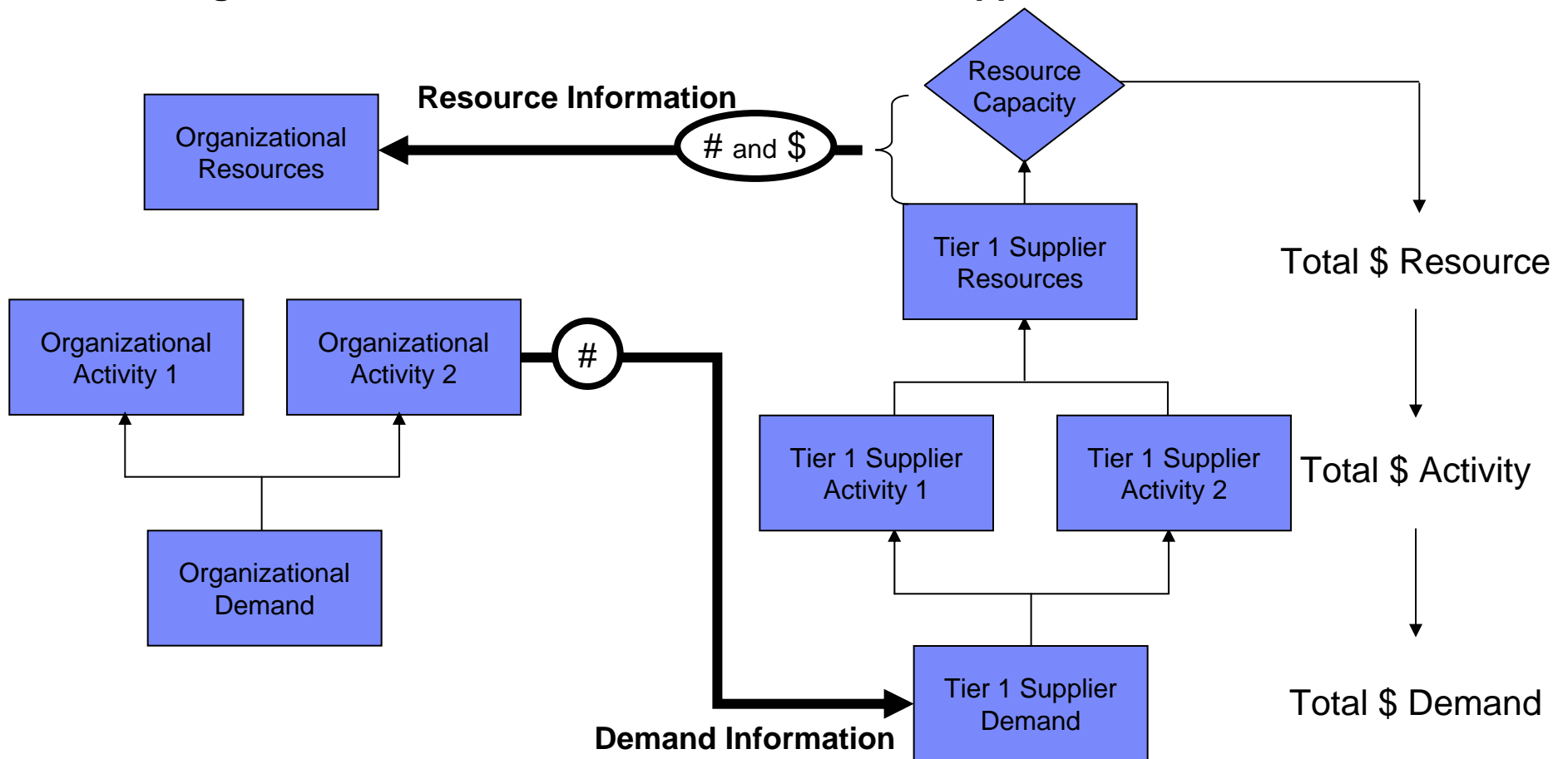
Cascading Demands From Consumer to Supplier Closed-Loop Models



Feedback Through Networked Closed-Loop Models

Consumer Organizational Units

Tier 1 Supplier Units



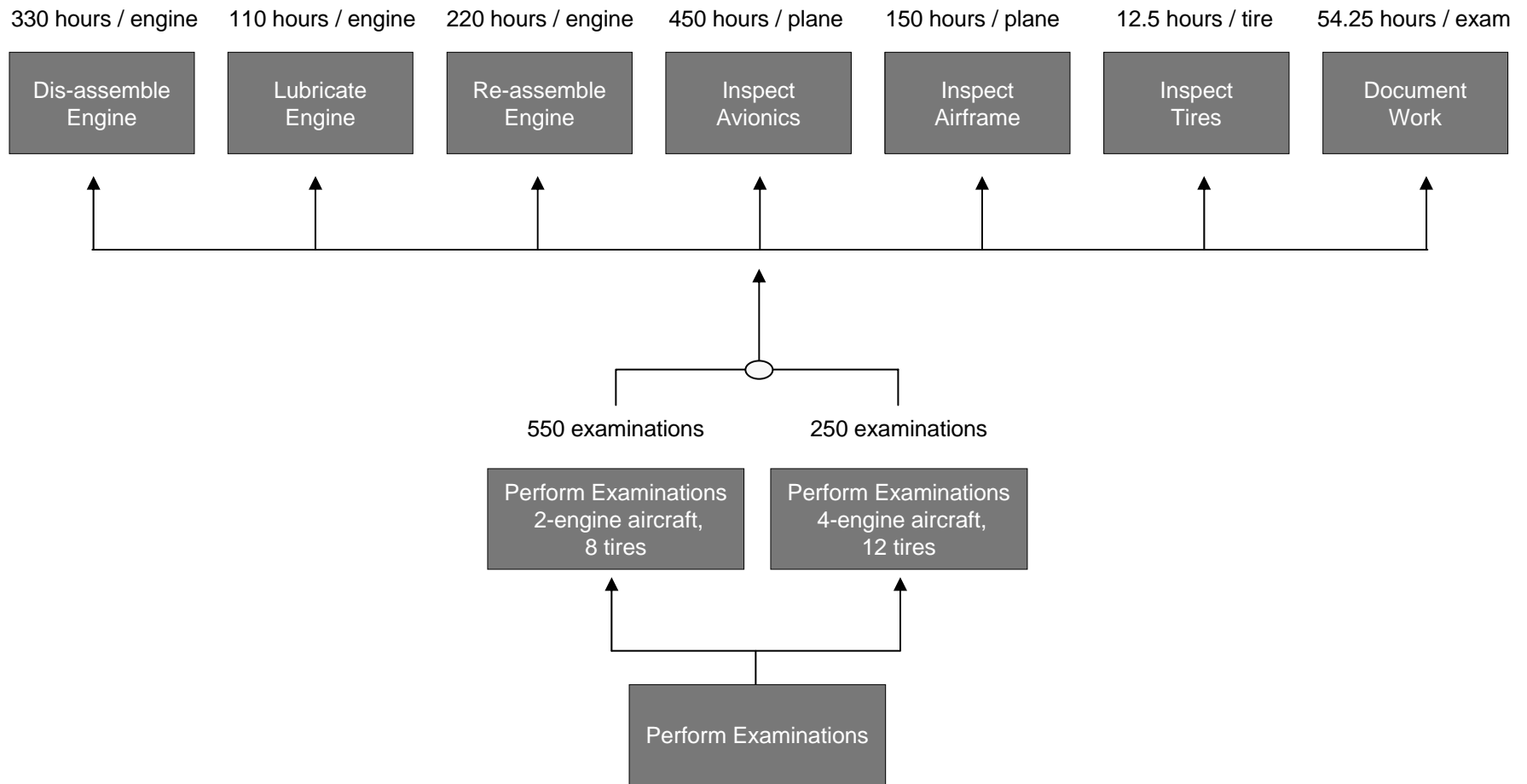
So Lets Add Some More Facts

- Initial demand of 800,000 flight hours was met by:
 - 550,000 hours on 2-engine aircraft (each with 8 tires), and
 - 250,000 hours on 4-engine aircraft (each with 12 tires)

- Each examination has 7 steps or activities, with the indicated labour requirements (see next slide):
 - Dis-assemble engine - 330 hours/engine
 - Lubricate engine - 110 hours/engine
 - Re-assemble engine - 220 hours/engine
 - Inspect avionics - 450 hours/plane
 - Inspect airframe - 150 hours/plane
 - Inspect tires - 12.5 hours/tire
 - Document work - 54.25 hours/exam

- And the new demand volume will be met by:
 - 600,000 hours on 2-engine aircraft (each with 8 tires), and
 - 500,000 hours on 4-engine aircraft (each with 12 tires)

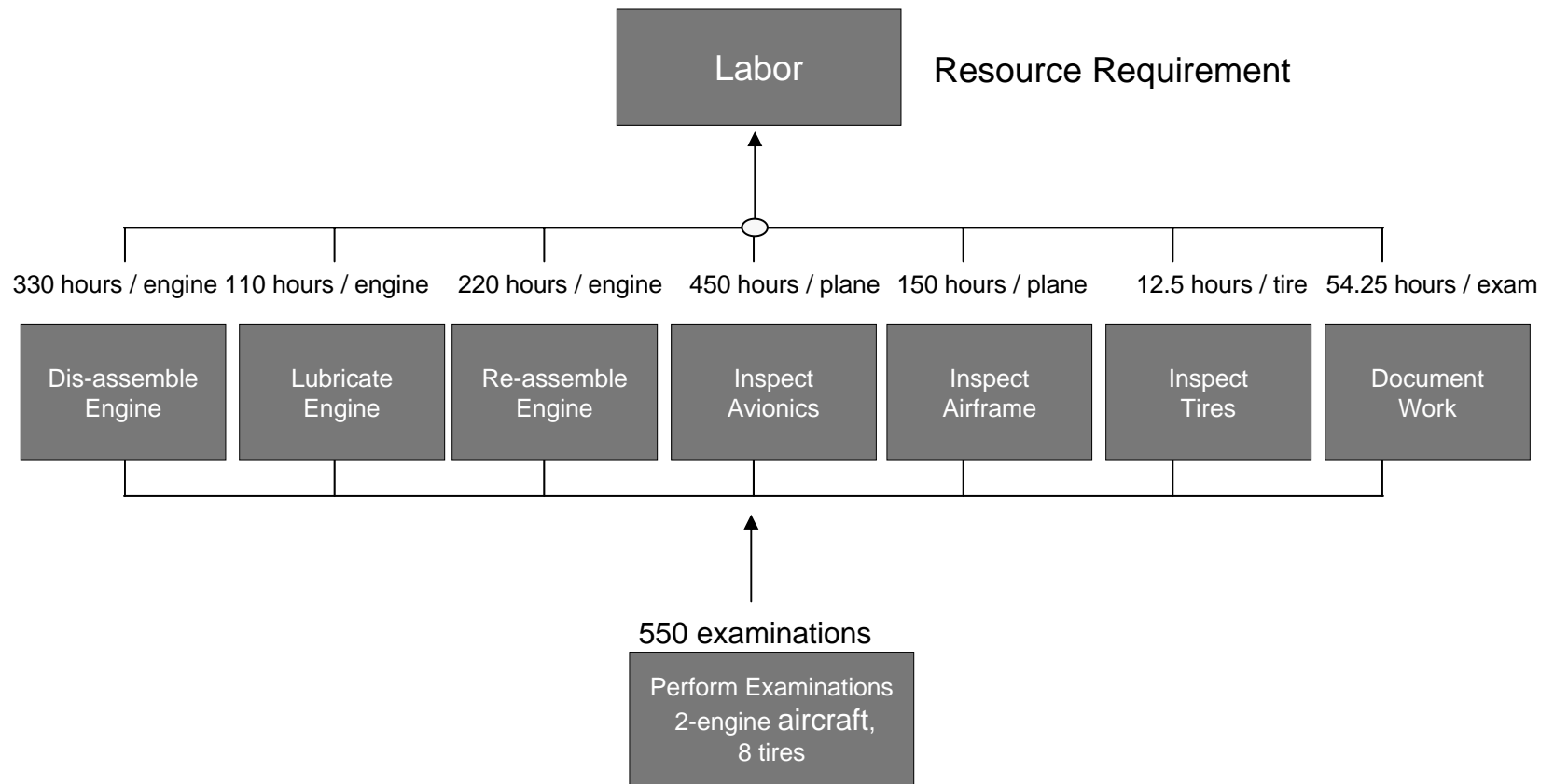
Airline Example: Breaking Down Demand and Generating Detailed Activity Requirements at the Lower Level



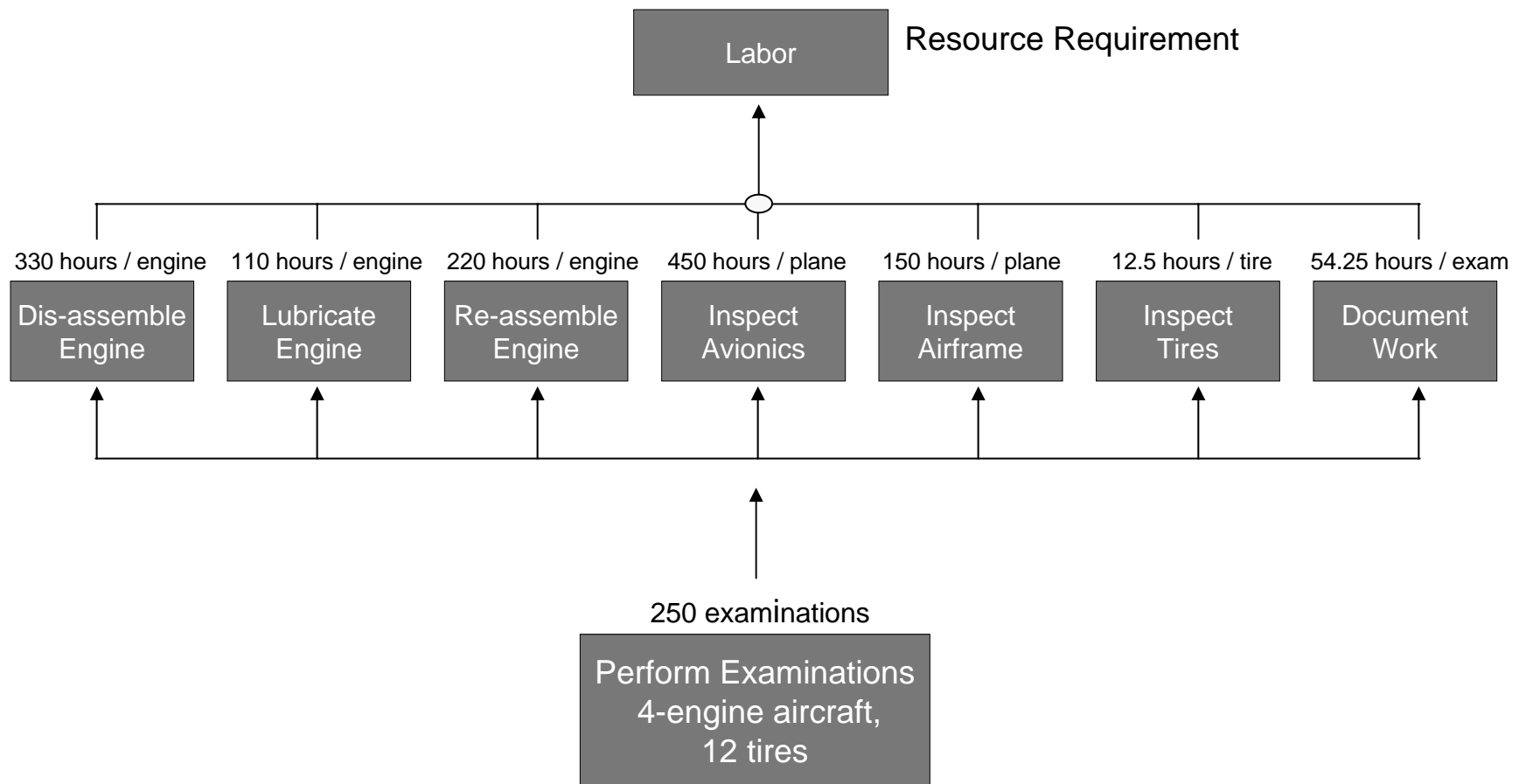
Lets Get to Work

- Validate our initial labour requirement of 2,000,000 hours
 - Calculate labour requirements by activity and aircraft type
 - Confirm if the figures on slide 3 are reasonable

Airline Example: Determining Initial Resource Requirement, 2-Engine Aircraft Inspections – Work Page



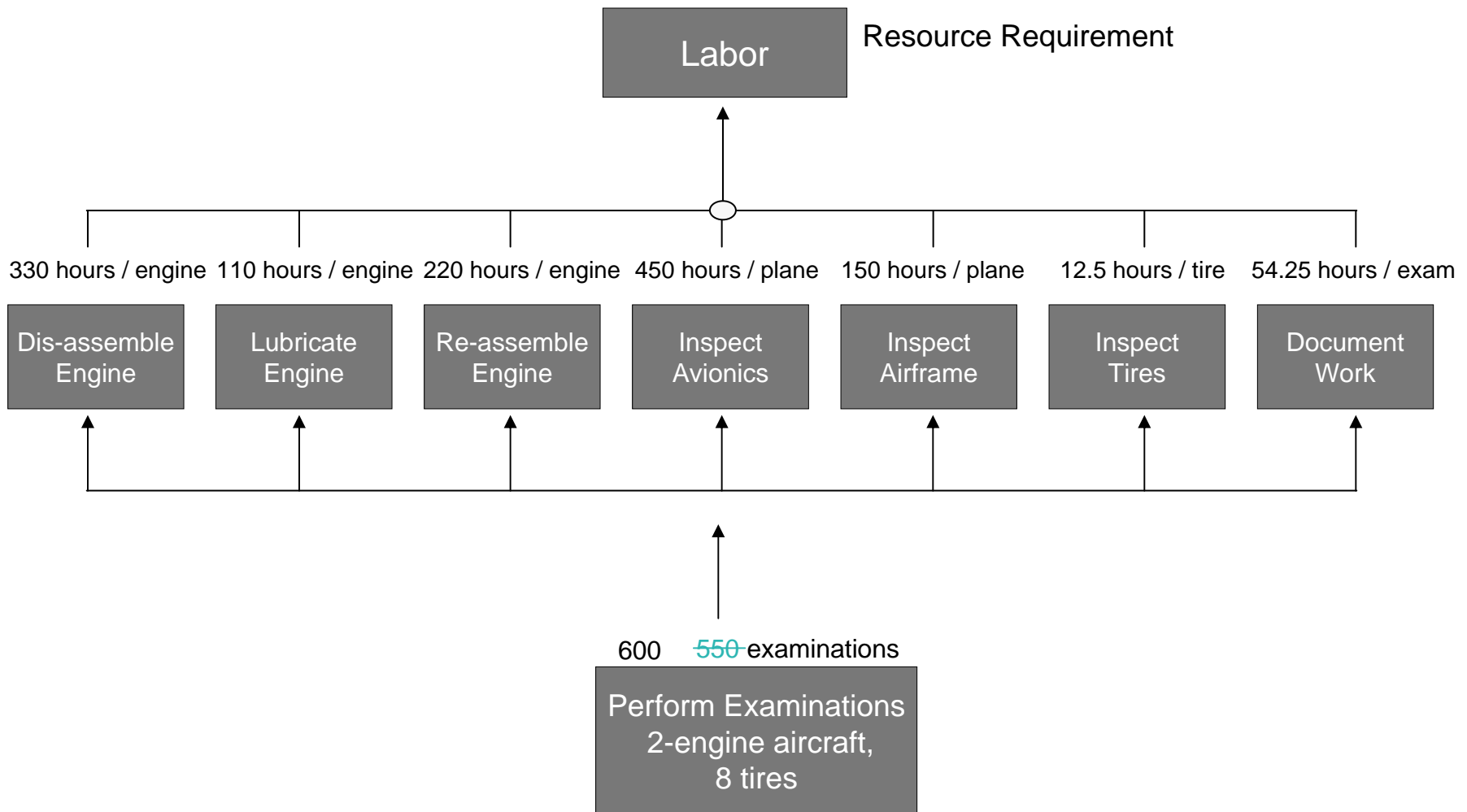
Airline Example: Determining Initial Resource Requirement, 4-Engine Aircraft Inspections – Work Page



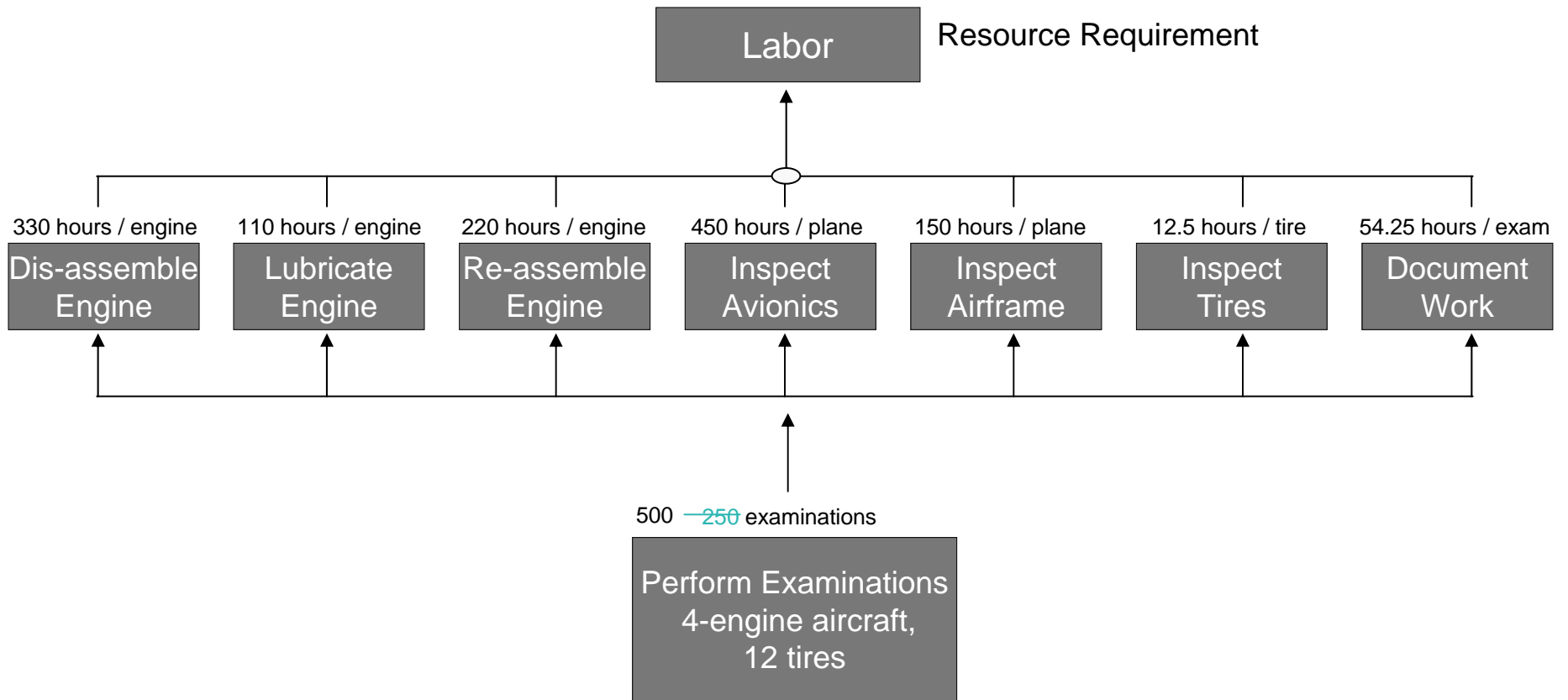
Lets Update Our Work

- Calculate the new labour requirement
 - Again, by activity and aircraft type

Airline Example: Determining Revised Resource Requirement, 2-Engine Aircraft Inspections – Work Page



Airline Example: Determining Revised Resource Requirement, 4-Engine Aircraft Inspections – Work Page



Questions ?



Contact Information:

Email: robert.torok@ca.ibm.com

Tel.: 416 – 478 3410

Email: cdiotte@ca.ibm.com

Tel:613- 249 2209