

Example of Interdependency-eliminated System Configuration

SC C2

PS1-3 Question 1.6

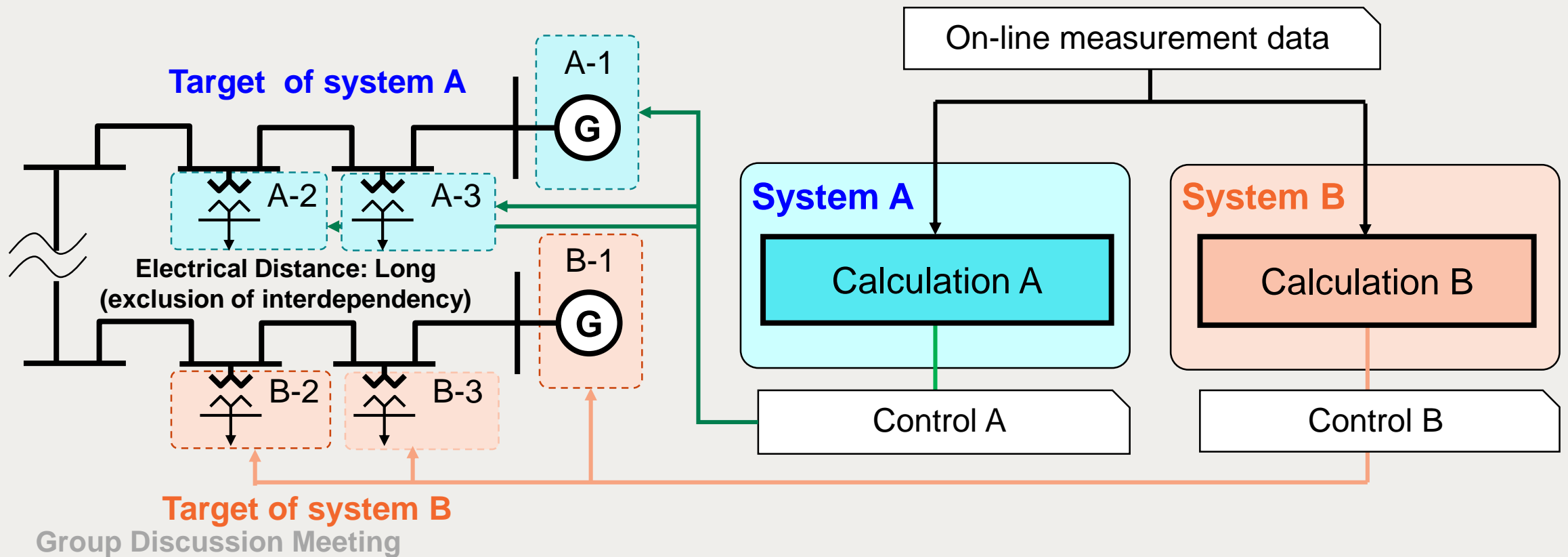
How can we guarantee that they do not contradict by using different optimization and counteract each other's actions?
Should AI2AI interoperability be developed to coordinate AI operations,
similar to the coordination of operators in dispatch centers?

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Solution 1: Separating the responsible range

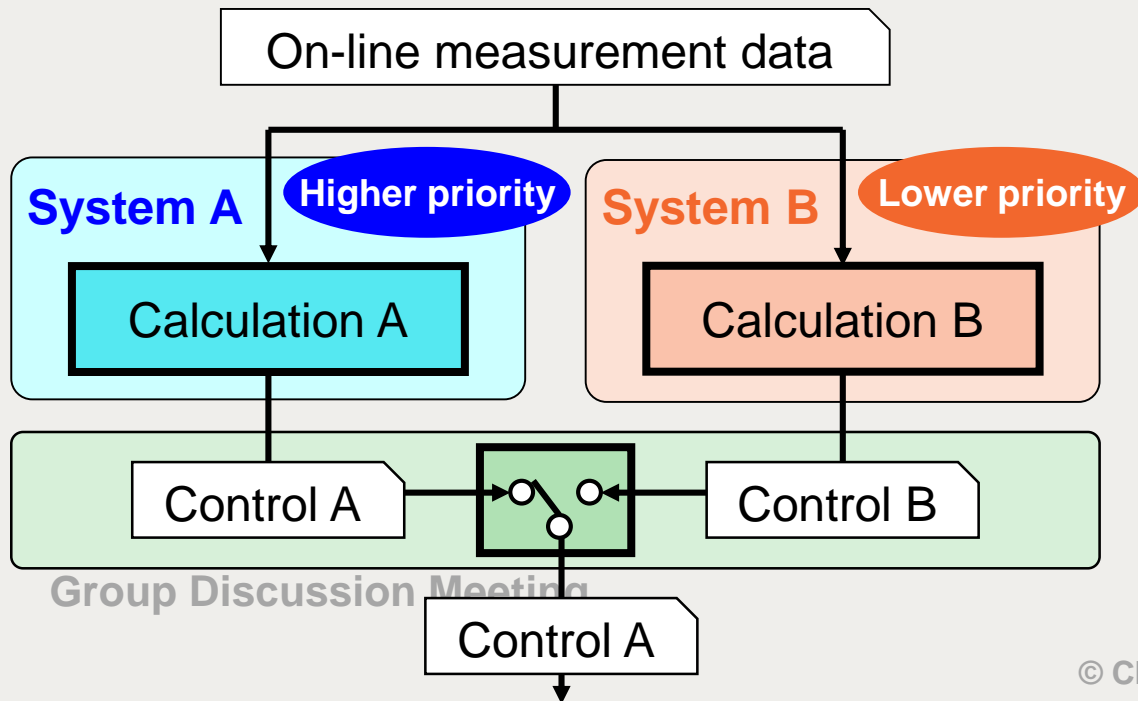
- For each system, separate the responsible ranges, such as the electrical phenomenon, or the operation area.
- Exclude interdependency from the range where each system monitors/prevents the interference in other range.



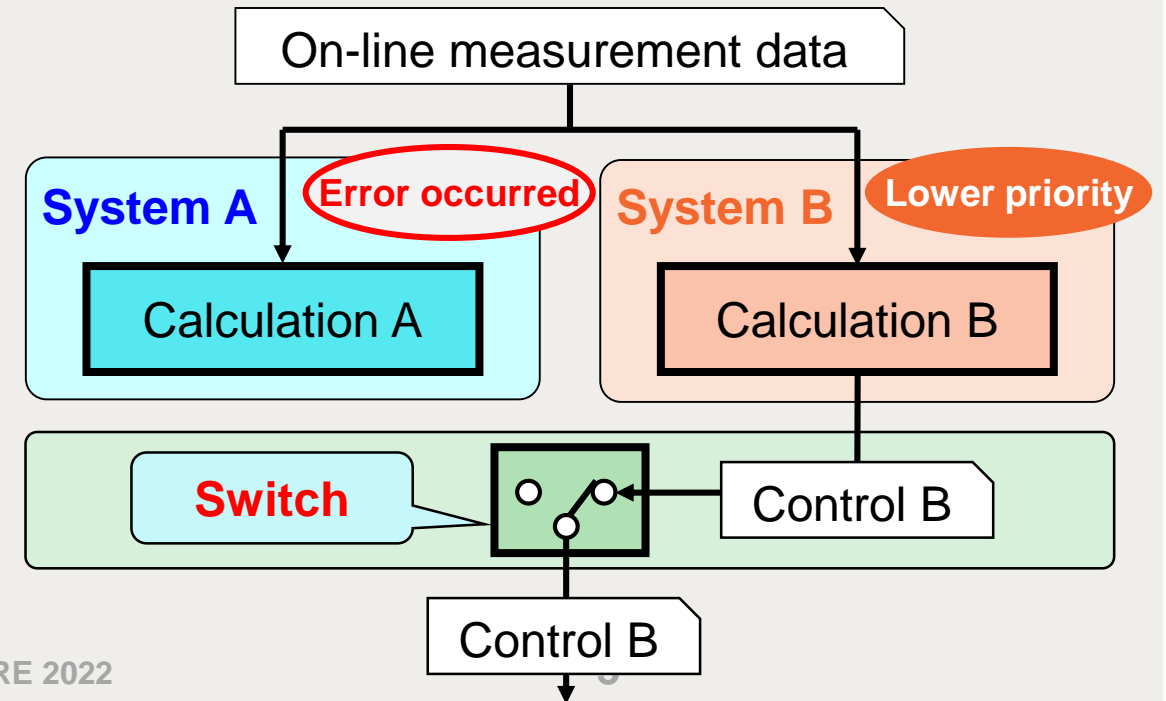
Solution 2: Setting of the order of priority

- Set the order of priority for each system.
- At normal conditions, the operation is based on the calculation result from the highest priority system (when it becomes difficult to maintain the function of the system due to errors.. etc., switch the operation to be based on the next highest priority system).
- Exclude interdependency from the range where each system monitors/prevents the interference in other range.

At normal conditions



When an error occurs in system A



Solution 3: AI to AI (Multi-stage collaboration based on coordination of calculation results)

- Set the order of priority and the responsible ranges. Then, operate in parallel and coordinate the calculation results.
- The lower priority system incorporate the calculation result from the higher system. Therefore, the calculations of lower priority system are in the range that meets control performance required in the responsible range of the higher system.
- Prevent the counteraction between systems and unnecessary cancellation of mutual actions to maintain the control performance based on the order of priority.

