1. **Initial Choice:**

   - The contestant initially chooses one of the three doors. Let's say they choose door 1.

```
   Initial State:

   -------------

   | X | ? | ? |

   -------------
```

   - X represents the door chosen by the contestant, and ? represents the other two unchosen doors.

2. **Host Reveals a Door:**

   - As the host (Maeve), I, who know where the prize is, open one of the other doors that doesn't have the prize. Let's say I open door 3 and reveal nothing.

```
   After Host Reveals Door 3:

   --------------------------

   | X | ? |   (reveal)   |

   --------------------------
```

   - Now, the contestant is faced with a choice: Stick with door 1 or switch to the remaining unopened door (door 2).

3. **Probability Distribution:**

   - Initially, there was a 1/3 chance that the contestant picked the door with the prize and a 2/3 chance that the prize was behind one of the other doors.

Probability Distribution:

| P | P | (not P) |

- P represents the door with the prize, and (not P) represents doors without the prize.

4. **Switching Strategy:**

- When the host opens door 3, the probability distribution updates:

Probability Distribution after Host Reveals Door 3:

| P | (not P) | (not P) |

- The 2/3 probability of the prize being behind one of the other doors now concentrates on the remaining unopened door (door 2).

5. **Conclusion:**

- Therefore, if the contestant switches to the last remaining door (door 2), they have a 2/3 chance of winning the prize. If they stick with their initial choice (door 1), they only have a 1/3 chance.

In summary, the optimal strategy is to switch doors to maximize the chance of winning the prize.