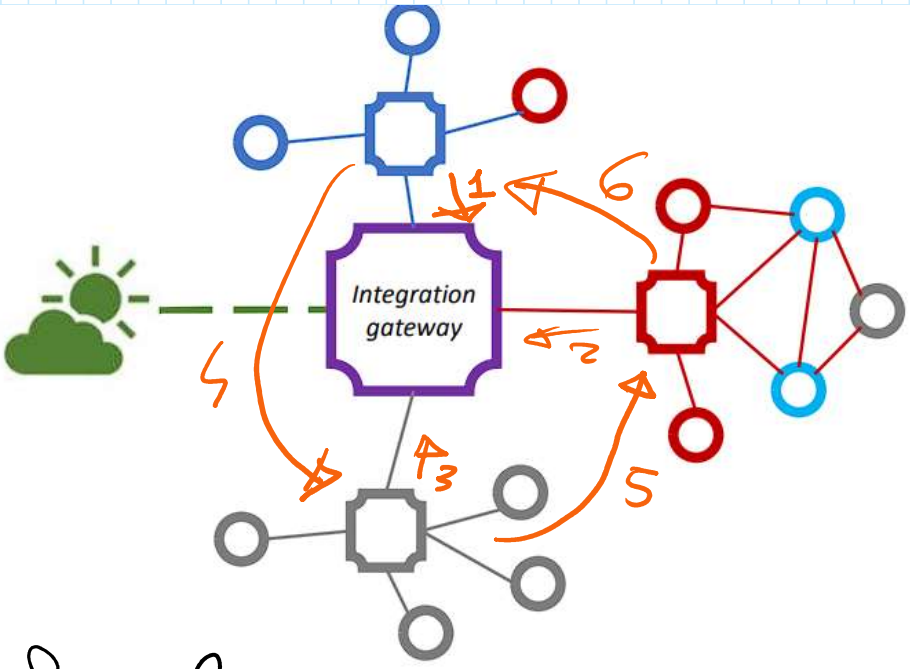

formula $n(n-1)(n-2)\cdots\cdots = n^2$

$$\sum_{i=0}^{n-1}(n-i) = \sum_{i=0}^{n-1} n - \sum_{i=0}^{n-1} i\,,$$

$$\sum_{i=0}^{n-1} n = n^2\,,$$

$n = 3 = \#$ networks

1) Blue to grey, red, violet
2) Grey to red, violet
3) Red to violet

$3 \cdot 2 \cdot 1 = 6$

(n) mappings
$(n-1)$ mappings
$(n-2)$ mapping