Input: The redundant substrate network as G^S. The current interested virtual network request as G^V.

1: Initialize variables: N for maximum back-off times; two empty stacks S (for mapped nodes) and Q (for unmapped nodes).

2: Apply the heuristic computation in the virtual network. Find the virtual node m with the highest heuristic value $H(m)$. Let node $m' = m$.

3: **repeat**

4:     Try to map m to $n \in G_S$, starting from substrate node with higher heuristic value.

5:     **if** No applicable substrate node n to host virtual node m and corresponding virtual link mm' **then**

6:         **if** $N == 0$ **then**

7:             **return** MAP_FAILED

8:         **else**

9:             $N \leftarrow N - 1$

10:             $Q.push(m)$, $m = S.pop()$.

11:     $S.push(m)$.

12:     Update the redundant network, recalculating heuristics.

13:     **for all** Virtual node $m' \in Adj(m)$ in the decreasing order of $H(m')$ **do**

14:         $Q.push(m')$

15:     $m' = m$. $m = Q.pop()$.

16: **until** $Empty(Q) ==$ **true**

17: **return** MAP_SUCCESS