Step 2.2. If M is identical to a marking on the path from the root to M, then tag M "old" and go to another new marking.

Step 2.3. If no transitions are enabled at M, tag M "dead-end".

Step 2.4. While there exist enabled transitions at M, do the following for each enabled transition t at M:

Step 2.4.1. Obtain the marking M' that results from firing t at M.

Step 2.4.2. On the path from the root to M' if there exists a marking M" such that $M'(p) \geq M''(p)$ for each place p and $M' \neq M''$, i.e. M" is coverable, then replace M'(p) by ω for each p such that $M'(p) > M''(p)$.

Step 2.4.3. Introduce M' as a node, draw an arc with label t from M to M', and tag M' "new".

Example 4.1 Consider the net shown in Fig. 3.2. For the initial marking M_0 = (1 0 0), the two transitions t_1 and t_3 are enabled. Firing t_1 transforms M_0 to M_1 = (0 0 1), which is a "dead-end" node, since no transitions are enabled at M_1. Now, firing t_3 at M_0 results in M_3' = (1 1 0), which covers M_0 = (1 0 0). Therefore, the new marking is M_3 = (1 ω 0), where two transitions t_1 and t_3 are again enabled. Firing t_1 transforms M_3 to M_4 = (0 ω 1), from which t_2 can be fired, resulting in an "old" node $M_5 = M_4$. Firing t_3 at M_3 results in an "old" node $M_6 = M_3$. Thus, we have the coverability tree shown in Fig. 4.1(a).