Let m denote the number of restrictions, and q denote the number of requests.
1. Use union find structure. For each restriction, explicitly maintain the representing nodes of both its endpoints. Merging a smaller component (with m_1 restrictions associated with it) into a large component (with m_2 restrictions) takes $O(\min\{m_1, m_2\})$ time. Amortized $O(m \log m + (n+q)\alpha(n+q))$.

References