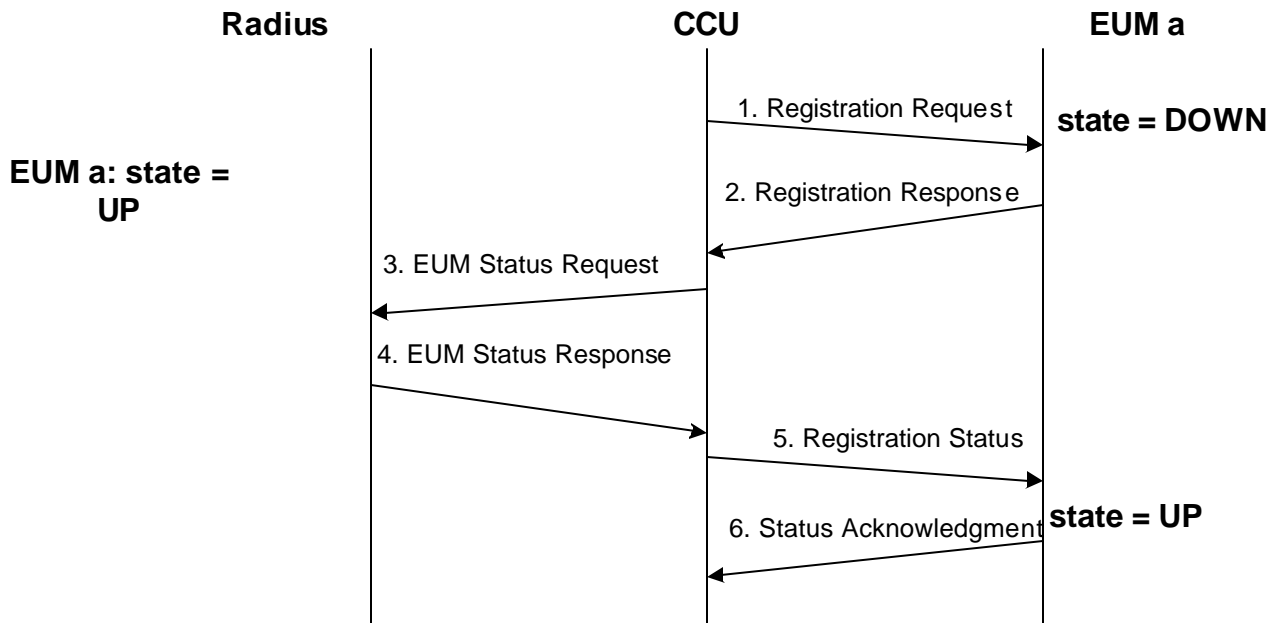


## Authentication - EUM Startup

Authentication gives the ISP control over the status of each individual EUM in the system. If the EUM is disabled, use data will not be passed to/from the Internet.



1. The startup state of an EUM is DOWN. The CCU sends a broadcast Registration Request message every two minutes, including a challenge string.
2. An EUM in the CCU's network (EUM a) responds to the Registration Request with a Registration Response message, including the response to the challenge string and the EUM's current local view of its state (DOWN).
3. The CCU queries the Radius Server for the status of EUM a. The query uses the IP address and EUM id of EUM a as the key.
4. The Radius Server validates EUM a in its database and returns the status for EUM a (i.e. UP or DOWN). The diagram above shows the case where the Radius Server returns an UP status for EUM a.
5. The CCU sends a Registration Status message to EUM a, including the status returned from the Radius Server (UP).
6. EUM a receives the Registration Status message and updates its own internal state with the supplied status (UP). EUM a responds to the Registration Status message with a Registration Acknowledgment message, including the new state (UP).