We propose NOMAD, a distributed edge cloud platform that decouples services from fixed hosting locations. It enables services to migrate seamlessly between edge locations, thus adapting to changes in network conditions and user roaming on-the-fly. Its main features are:

1. **Network profiling.** Mobile clients continuously profile network latency to all service locations in their environment. The active service site periodically collects all profiling information and decides to migrate a service if it benefits clients collectively by minimising the maximum perceived latency.

2. **Transparent service migration.** NOMAD snapshots the state of the backend service without requiring application modifications [3]. A snapshot includes application memory page files and raw data images that capture IP addresses and routing tables.

3. **Caching mechanism.** To minimise service disruption during migration, NOMAD uses a caching approach in which migration occurs via the clients, and previous state snapshots are cached to avoid retransmitting unchanged backend state.

**Demo:** We demonstrate a NOMAD prototype over an emulated network using the CORE network emulator [6]. The demo shows how NOMAD can support Cube 2: Sauerbraten, a first-person shooter game with stringent low latency requirements. A major concern for this game is to provide fair performance amongst multiple clients. NOMAD improves the overall game experience by keeping the lag between clients low, despite changes in network conditions due to user roaming. Due to NOMAD’s caching mechanism, the time to migrate a service is also kept low, i.e. in the order of seconds.

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**References**


