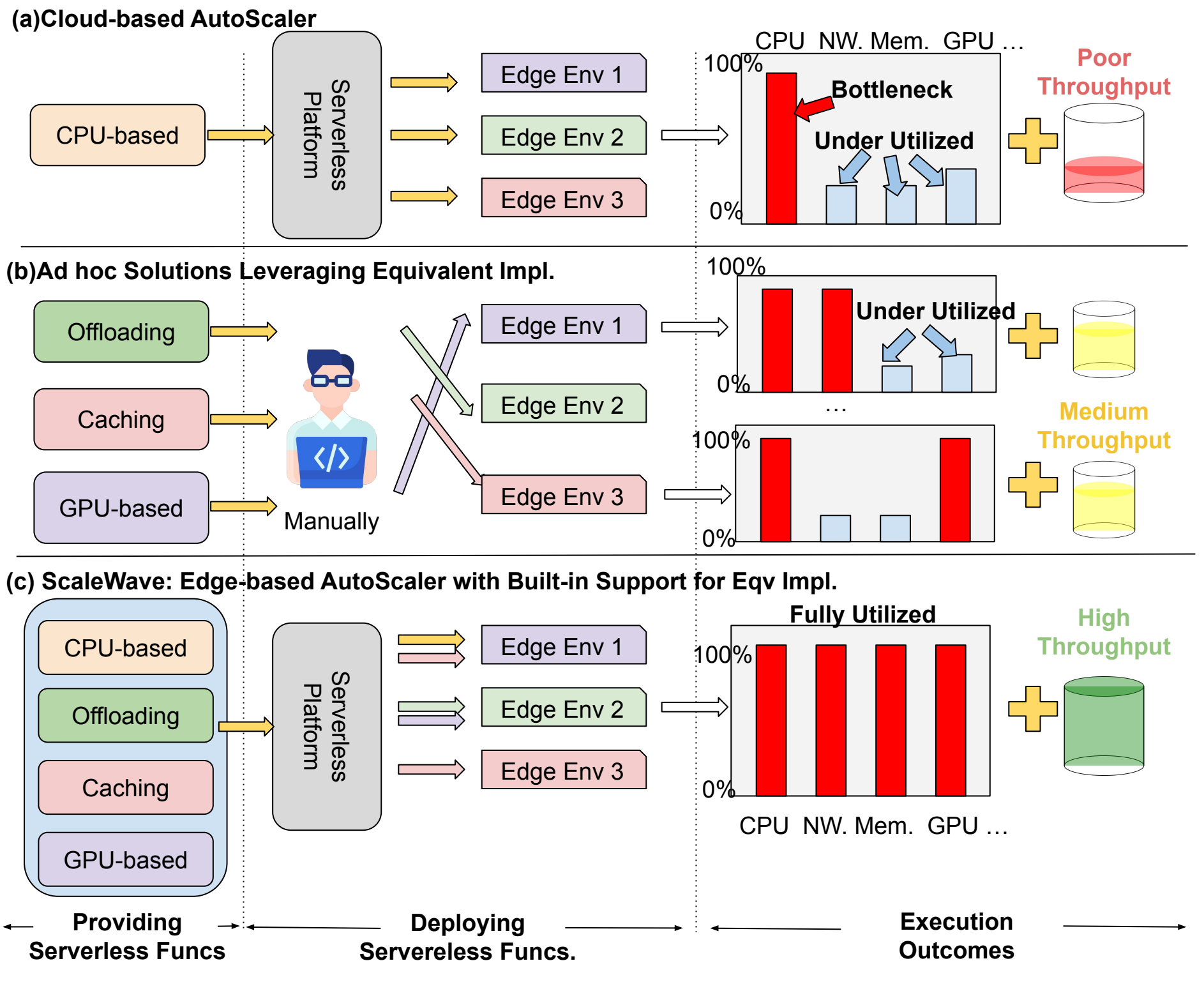
(a)Cloud-based AutoScaler
CPU-based
Serverless Platform
Edge Env 1
Edge Env 2
Edge Env 3
CPU NW. Mem. GPU …
100%
0%
Bottleneck
Under Utilized
Poor Throughput
(b)Ad hoc Solutions Leveraging Equivalent Impl.
Offloading
Caching
GPU-based
Manually
Edge Env 1
Edge Env 2
Edge Env 3
100%
0%
Under Utilized
…
100%
0%
Medium Throughput
(c) ScaleWave: Edge-based AutoScaler with Built-in Support for Eqv Impl.
CPU-based
Offloading
Caching
GPU-based
Serverless Platform
Edge Env 1
Edge Env 2
Edge Env 3
Fully Utilized
100%
0%
CPU NW. Mem. GPU …
High Throughput
Providing Serverless Funcs
Deploying Servereless Funcs.
Execution Outcomes