





















## 7. CONCLUSION

In resource-constrained embedded systems, such as smartphones, the under-utilized reserved memory is one of the major sources of inefficient resource management. On-demand reservation, which allows the system to exploit the reserved memory during an idle time of owner devices, sheds lights on the way of increasing the performance of the system while guaranteeing devices the use of reserved memory space.

We proposed a novel on-demand reservation approach, named *eCache*, that maximizes the memory efficiency of the system and minimizes the on-demand reservation time for end-user latency. By using the *eCache*, the system can greatly reduce the number of read I/O operations and increase the launch performance of applications by from 8% to 16%. With this performance improvement, the nature of eviction-based placement spontaneously maximizes the memory efficiency of the system. In addition, the on-demand reservation time can be minimized to millisecond level. This unrecognizable latency may make system more transparent in comparison to the system with the static-reservation approach.

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