

The idea of using dynamic voltage and frequency scaling in power management in microprocessor systems was originally invented by Weiser et al. in 1996 [16]. The power consumption is mainly governed by the following equation: (1) $P = CV^2F$ where P is the power, C is the switching capacitance, V is the supplied voltage and F is the working

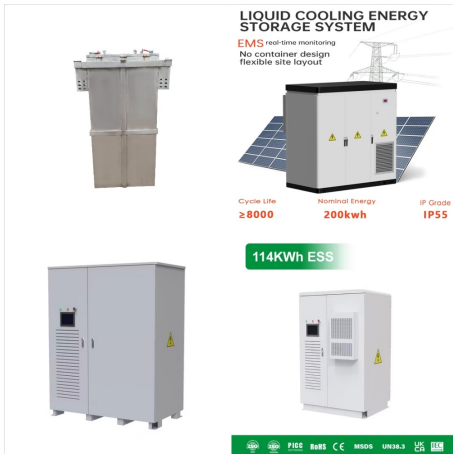


This work introduces dynamic power management (DPM) policies specifically tailored to battery-powered systems, and strives to enhance life-time by automatically adapting discharge rate and current profiles to battery state-of-charge. Battery life-time extension is a primary design objective for portable systems. Traditionally, battery life-time has been ???



Dynamic power management is a design methodology aiming at controlling performance and power levels of digital circuits and systems, with the goal of extending the autonomous operation time of

DYNAMIC POWER MANAGEMENT FOR PORTABLE SYSTEMS



Portable systems require long battery lifetime while still delivering high performance. Dynamic voltage scaling (DVS) algorithms reduce energy consumption by changing processor speed and voltage at run time depending on the needs of the applications running. Dynamic power management (DPM) policies trade off the performance for the power ???



Recently, the optimization of power flows in portable hybrid power-supply systems (HPSSs) has become an important issue with the advent of a variety of mobile systems and hybrid energy technologies.



Abstract: In order to reduce CPU power consumption in portable systems, DPM (Dynamic Power Management) techniques is commonly used in the CPU low power design. This paper analyzes the time-out, prediction and random strategy of DPM, proposed an adaptive prediction-correction strategy, which makes up the deficiencies of the current prediction algorithm, that the ???

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In this article, we propose a novel learning-to-search (L2S) framework to automatically construct high-quality expert DPM policies for any desired power-performance-thermal tradeoff. The key and significant advantage of L2S over prior ML methods including RL and IL is that it provides a design automation view for DPM: The designer specifies the ???



This work extends the DPM model with a DVS algorithm, thus enabling larger power savings, and test the approach on MPEG video and MP3 audio algorithms running on the SmartBadge portable device. Portable systems require long battery lifetime while still delivering high performance. Dynamic voltage scaling (DVS) algorithms reduce energy consumption by ???



Dynamic power management for portable systems. Peter Glynn. 2000. See full PDF download Download PDF. Related papers. Battery-driven dynamic power management. Riccardo Scarsi. IEEE Design & Test of Computers, 2001. download

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The policy optimization problem for dynamic power management has received considerable attention in the recent past. We formulate policy optimization as a constrained optimization problem on continuous-time semi-Markov decision processes (SMDP). SMDPs generalize the stochastic optimization approach based on discrete-time Markov decision processes (DTMDP) ???



Portable systems require long battery lifetime while still delivering high performance. Dynamic power management (DPM) policies trade off the performance for the power consumption at the system level in portable devices. In this work we present ???



Portable systems require long battery lifetime while still delivering high performance. Dynamic power management (DPM) policies trade off the performance for the power consumption at the system level in portable devices. In this work we present the time-indexed SMDP model (TISMDP) that we use to derive optimal policy for DPM in portable systems.

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Dynamic power management schemes (also called policies) reduce the power consumption of complex electronic systems by trading off performance for power in a controlled fashion, taking system

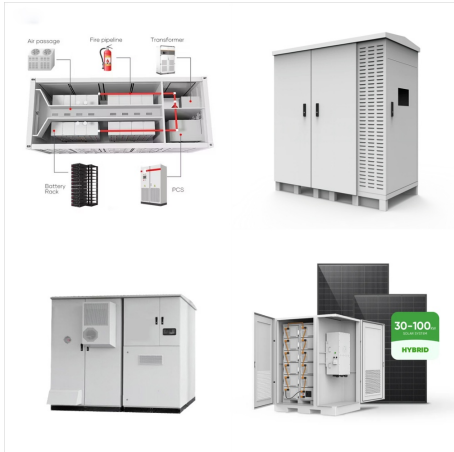


IEEE TRANSACTIONS ON VERY LARGE SCALE INTEGRATION (VLSI) SYSTEMS, VOL. 8, NO. 3, JUNE 2000 299 A Survey of Design Techniques for System-Level Dynamic Power Management Luca Benini, Member, IEEE, Alessandro Bogliolo, Member, IEEE, and Giovanni De Micheli, Fellow, IEEE Abstract???Dynamic power management (DPM) is a design



This paper presents a Reinforcement Learning (RL) based DPM technique for a portable, multi-camera traffic monitoring system that significantly reduces the power consumption and keeping the system response to a desired level. Dynamic Power Management (DPM) refers to a set of strategies that achieves efficient power consumption by selectively turning off (or ???

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the average power dissipated by the whole system consists of shutting down the resources during their periods of in- activity. In other words, one can adopt a dynamic power management (DPM) policy that dictates how and when the various components should be shut down according to the system workload.



Dynamic power management (DPM) algorithms aim to reduce the power consumption at the system level by selectively placing components into low-power states. A new event-driven power management algorithm that guarantees globally optimal decisions is presented that is based on Time-Indexed Semi-Markov Decision Process model (TISMDP). TISMDP power



Dynamic Voltage Scaling and Power Management for Portable Systems Tajana Simunic Luca Benini Andrea Acquaviva Peter Glynn?? Giovanni De Micheli ?? Management Science and Computer Systems DEIS Engineering Department Laboratory University of Bologna Stanford University Stanford University ABSTRACT Portable systems require long battery lifetime while ???

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A. Merkel, F. Bellosa, and A. Weissel. Event-Driven Thermal Management in SMP Systems. In Second Workshop on Temperature-Aware Computer Systems (TACS'05), June 2005. Google Scholar; Brock, B. and K. Rajamani, Dynamic Power Management for Embedded Systems, in IEEE International SOC Conference. 2003: Portland, Oregon. Google Scholar



Portable systems require long battery lifetime while still delivering high performance. Dynamic voltage scaling (DVS) algorithms reduce energy consumption by changing processor speed and voltage



Online dynamic power management (DPM) strategies refer to strategies that attempt to make power-mode-related decisions based on information available at runtime. Dynamic power management of portable systems. In Proceedings of MOBICOM. Crossref. Google Scholar [9] Hwang, C.-H., Allen, C., and Wu, H. 1996. A predictive system shutdown method

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Portable systems require long battery lifetime while still delivering high performance. Dynamic power management (DPM) policies trade off the performance for the power consumption at the system level in portable devices. In this work we present the time-



Dynamic power management for faster, more efficient battery charging Introduction With the fast-growing demand for emerging portable devices such as tablets and smartphones, there are many new challenges in improving battery-operated system performance. The battery-management system must be intel-



This work introduces the design methodology known as dynamic power management (DPM), targeting the maximization of power efficiency under performance constraints for electronic systems, and provides guidelines to assessing the potential impact of a DPM scheme for a given target system. We introduce the design methodology known as ???

DYNAMIC POWER MANAGEMENT FOR PORTABLE SYSTEMS



Portable systems require long battery lifetime while still delivering high performance. Dynamic power management (DPM) policies trade off the performance for the power consumption at the system level in portable devices. In this work we present the time-indexed SMDP model (TISMDP) that we use to derive optimal policy for DPM in portable systems



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Dynamic power management (DPM) policies trade off the performance for the power consumption by selectively placing components into low-power states. "Dynamic Power Management for Portable Systems", The 6th International Conference on Mobile Computing and Networking, pp. 22-32, 2000.]] Digital Library. Google Scholar [4] L. Geppert, T. Perry