

Assignment 3: identify architectural tactics

James Hamilton summarizes in [1] a set of best practices in designing and deploying operations-friendly Internet-scale services. Many of the practices recommended in this paper correspond to the architectural tactics introduced in our lectures. Read the paper and list no less than 6 recommended practices and their relations to our tactics. Some of the examples are given below:

- (1) “Do not build the same functionality in multiple components” correspond to modifiability tactic “Abstract Common Services”, which attempts to keep a service required by multiple clients in one place so that modifications need not to be made separately.
- (2) “Enforce admission control at all levels” proposes to control admission at all major components boundaries to avoid system thrash resulted from taking in too much work into an overloaded component. This practice corresponds to the performance tactic “Control Resource Demand: Limit Event Response”, which will put a limit to the events rate processed by a component.
- (3) “Redundancy and fault recovery” corresponds to various categories of fault recovery tactics in availability design.

Reference

- [1] James R Hamilton, "On Designing and Deploying Internet-Scale Services," in Proceedings of 21st Large Installation System Administration Conference (LISA '07) [C], pp. 231-242, 2007.

Notes:

- (1) Send the assignment as an attachment to: liqiping1991@gmail.com, with the following email subject: “[SA assignment 3]” + Your student number (e.g. [SA assignment 3] 3120102776);
- (2) The document must be delivered in Word or PDF format and named as follows: your student number + “_” + your name + “_” + “assignment 3” (e.g. 3120102776_张三_assignment 3.doc).
- (3) This assignment will fall due on 1, May, 2015.