

Performance and front office digitization

The sound of silence



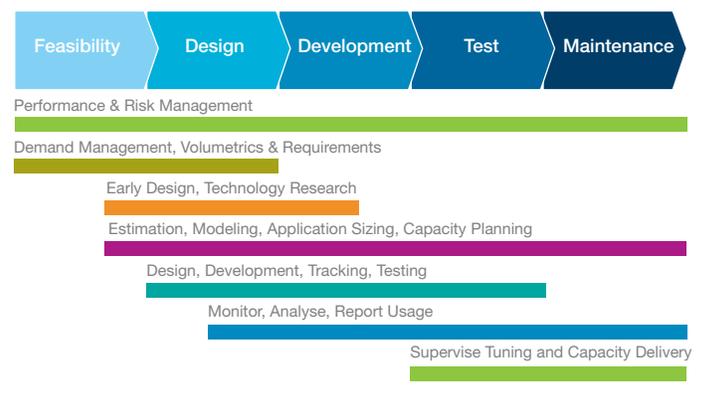
In the days before social media, when a new customer-facing system went live any complaints went to the customer help desk and, except under exceptional circumstances, any adverse publicity could be managed. Now with the 'twitterverse' even moderate criticism explodes everywhere. An obvious example is the banking industry where there have been some high profile issues.

This paper is a plea for performance engineering to be at the heart of each front office digitization project, so that when you go live all you get is praise for your new functionality and 'the sound of silence' on the way it performs.

Performance engineering has been formalised as a set of structured tasks and activities since the release of IBM Performance Engineering and Management Method (PEMM) in 1998. It has never been more relevant, as the channels accessing front office functions multiply and predicting volumes and load gets more difficult.

The method promotes five main things:

- A strong focus on identification and mitigation of performance risks throughout the project
- A deep understanding of the demand, volumetrics and performance requirements
- System performance prediction by estimation, modelling and capacity planning
- Direct intervention during design, development and testing to ensure performance requirements can be met
- Validation that requirements (or subsequent service level agreements) are being met by ensuring that adequate monitoring and analysis tooling and procedures make it into production



As the front office is opened up to new channels, the risks to system performance and therefore service increase. These include:

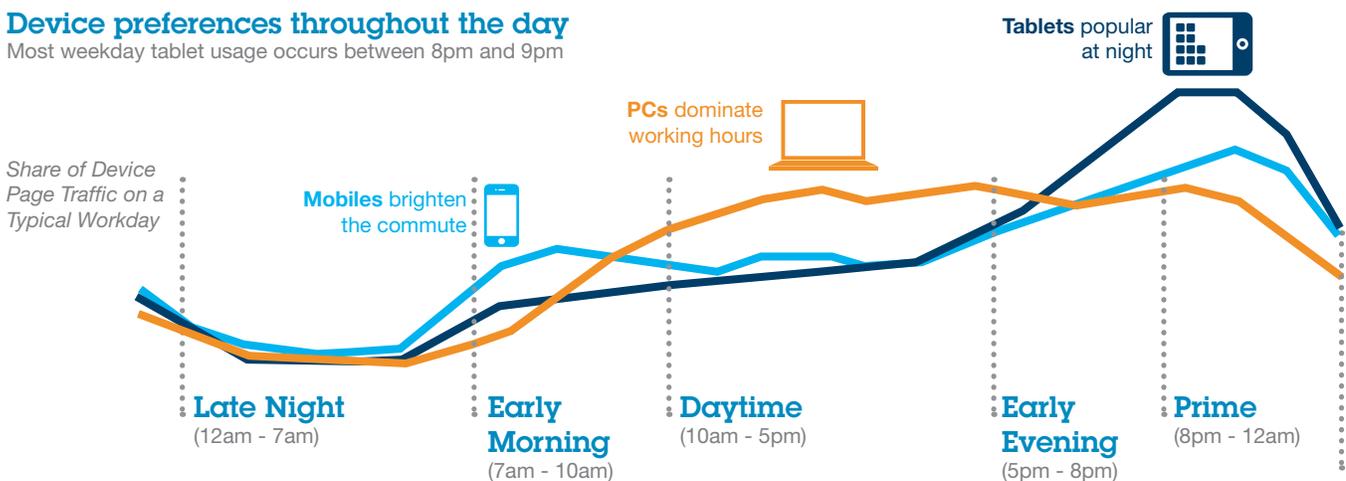
- Customers now, in essence, have direct access to the back end systems which support the front office applications. Is there the capacity and scalability to support this?
- The online day can spread and interfere with the existing processing profile and time schedule. This is especially true where the customer has an international presence.
- Expectations on response times (and availability) are high, even though mobile and internet access inevitably increases the processing path length and can 'steal' part of existing response time budget out of the hands of the team developing the front office application.

The diagram below shows the way in which the traditional working hours online day is being stretched. Statistics from the same article showed that tablet and smartphone access each doubled in 2012.¹

With the advance of new channels, the demand and workload profile is changing, showing a significant increase in browse based activity, when compared with other 'legacy' channels. A U.S. survey showed that, for example, the adoption of mobile banking has increased substantially in the past year with nearly 28 percent of mobile phone users reporting that they now use mobile banking. 87 percent of mobile users have checked financial account balances in the past 12 months and 35 percent of those users used their mobile account > 10 times per month.²

Device preferences throughout the day

Most weekday tablet usage occurs between 8pm and 9pm



All of these factors indicate that all the tiers in a solution need to be managed from a performance risk point of view.

Two common techniques to achieve this are the use of performance budgets, and what is termed ‘technical proving.’

- Performance budgets are derived by breaking down the key use cases into chunks (tiers, components or whatever is appropriate) and allocating a budget to each based on a given non-functional requirement (NFR) or service level agreement (SLA). A budget could specify a required latency, response time, throughput or system resource constraint (or a mixture). These budgets provide a target for designers, developers and those who tune for performance and support an initial feasibility check that end-to-end expectation performance can be met, or not.

- Another powerful technique is ‘technical proving.’ The risks and issues log is used to identify the elements of the solution which pose the most risk to the project. These are then broken out as mini projects and subject to particular focus which include early performance testing and tuning (as soon as the code is available). This can identify major issues early in the development lifecycle. The use of this technique can allow the identification and redesign of poorly performing components or processes at a point in the project when it is relatively easy and much more cost effective to fix them.

So what will it cost? IBM estimates that 3 percent of the project budget should be spent on performance engineering on a medium complexity project; however, this may rise to 10 percent and beyond especially where there is a high degree of visibility or potential damage to brand.

Performance engineering is the responsibility of the architect or architecture team on a project or where the engagement warrants it, an allocated performance architect.



Client Benefits

- Significant cost savings due to fewer performance and availability issues affecting front line business services.
- Reduced probability of programme delays and/or early life service issues due to emergent performance and/or availability issues.
- Increased confidence in the ability of critical services to continue to meet the demands of the business going forward.

Contacts

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Sources

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