

Testing as a Service Models

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I would like to thank my mentor David Dubovsky for setting me down this path of automation enlightenment back in the 90s with his both motivating & inspirational words, you 'GONNA WANNA WIN'. Then my father John Wright who without him none of this would have been possible, providing the solid foundation for my success over the years.

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As well as the Testing-Alliance.com team, including the world famous Julie Gardiner (this years opening keynote speaker at STARWest). A special mention to Edgar Smith for taking me under his wing since Sydney (currently in Mauritius). I would also like to say a massive thank you to Paul Gerrard (this years EuroSTAR conference chair) for agreeing to reviewing this discussion paper.

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Why As A Service?

The testing landscape is changing, the traditional approach to providing business value through testing is constantly being challenged. So businesses need to constantly re-examine the real value of testing services as an integral part of their overall delivery capabilities.

The question is: are traditional Testing as a Function (TaaF) as part of the Software Development Lifecycle (SDLC) model still valid? Or whether Testing as an Activity (TaaA) needs to develop a new Solution Delivery Lifecycle Integration (SDLCi) model supporting Business on a Page (BoaP) to provide business visibility through powerful Model-Based Design (MBD) techniques?

Traditionally, with the Software Development Lifecycle (SLDC) (e.g. Waterfall) key Testing as a Function (TaaF) resources were retained in-house, in order to benefit from their extensive domain expertise and increased understanding of business requirements.

The tendency has been to rely on complex hybrid resourcing models made up of internal resourcing and/or external resourcing (near shore, mid shore and off shore), to strive for Testing Centres of Excellence (TCOE).

“Businesses should focus on business, and not try to be Testing Centres of Excellence (TCOE).”

Modern approaches such as organisation-wide / enterprise agile (OEA) adopt more Testing as an Activity (TaaA) approaches by utilising cross-functional teams that are re-useable, re-deployable and have dynamic resource allocation. Such teams are no longer specific to purely Testing as a Function (TaaF) but contribute to and integrate with other business deliverables as part of, say, the proposed SLDCi model.

This aligns with last year’s EuroSTAR (2013) topic from conference chair Michael Bolton’s theme of Challenging Testing? This explored the fundamental question as to who should be providing testing services?

Similar questions have also been raised as to whether businesses should be retaining highly skilled testing professionals specialising in areas such as performance and security when that is not their core business offering? (e.g. a large supermarket chain spending £millions each year on building Testware Automation Frameworks (TAF)).

Performance and security testing disciplines are good candidates for ‘Testing as a Service’ models that can be provided at a fixed usage or output-based price.

At a recent Gartner presentation, I had discussions on this topic with Gartner’s researchers. It was apparent that the increased focus on business delivery is not just about chasing the ‘Hype Curve’ and the ‘Magic Quadrants’ promoting the maturity of Solution Integrators (SI) but also:

- How to drive true delivery Innovation powered by the Cloud?

- How to gain Actionable Business Insight (ABI) through Big Data?
- How to embrace the next generation Digital Enterprise Convergence (DEC), Internet of Things (IoT) or Quantum Computing (QC)?
- How to apply System Thinking (analysis & synthesis) to System Dynamics (epistemic & systemic entropy)?
- How to measure / quantify the business value chain between Testing > Quality > Assurance?

How these approaches can empower businesses to improve the understanding of their core business through abstraction or encapsulation of business processes by adopting the Business on a Page (BoaP) model.

Over the last 5 years I have been actively exploring Testing as a Service (TaaS) models. The key focus has been on the core businesses differentiators such as agility, visibility and flexibility as achieved by:

- Real adoption of Cloud platforms (Public, Private or Hybrid) and services (Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS))
- Improving the Time to Market through Continuous, Integration, Build & Delivery (CIBD), 'Shift Left' (Test-Driven Delivery) or 'Shift Right' (Service Delivery i.e. DevOps), 'Shift Up' (Business Acceptance Testing) and 'Shift Down' (User Acceptance Testing)
- Providing dynamic Delivery Solutions (Products or Services) through pluggable Service Oriented Architectures (SOA), Web Services (WS) and Application Programming Interfaces (API)
- Managing Portfolios of these Services (API, SOA) over bespoke design of Applications for a specific Customer or Client; no requirement for User Interface (UI) based apps in 5 years.
- Focusing on the All-Channel Customer Experience (4) through the Digital Enterprise journey for Transformation or Convergence supported through Social Intelligence (i.e. crowdsourcing) or Enterprise Gamification, rather than building platform specific User Interfaces (UI) or native mobile apps
- Preparing for Testing in the Wild (TinW) with mobile devices exceeding the 7.2 billion people on the planet and Machine to Machine (M2M) now in the excess of 250million (growing at a faster rate than mobile) Near Field Communication (NFC) and Internet of Things (IoT).
- Leveraging powerful Service / Network Virtualisation platforms that support Test First Delivery (TFD) methodologies as the Solution delivery enabler not the delivery mechanism i.e. which Technology or Platform
- Migrating the impact & risk around Digital Disruption when it comes to Big Data and the Netflix™ model for consuming Database as a Service (DBaaS) with real-time data masking embracing moment in time (Small Data) to empower Business Intelligence (BI)
- Integrate 'As A Service' Solution Integrators (SI) that provide the end to end Business Delivery process linked to quality deliverables directly enforceable Service Level Agreements (SLA) with defined Business Acceptance Criteria (BAC), measurable by Key Performance Indicators (KPI) as well as complying with the businesses appetite for Risk Mitigation / Exposure

The above topics are too diverse to cover in detail here; so this discussion paper will focus on how to integrate 'As A Service' models within Testing as an Activity (TaaA) in order to add clear value backlog to the Business Delivery process through the following models:

- Testing as a Service (TaaS) +
- Test Platform as a Service (TPaaS) +
- Test Infrastructure as a Service (TIaaS)
- Test Automation as a Service (TAaaS) +
- Functional Testing as a Service (FTaaS)
- Performance Testing as Service (PTaaS)
- Mobile Testing as a Service (MTaaS)
- Security Testing as a Service (STaaS)

In particular, the topics shown with a plus sign will be directly challenging the current industry perception of what the 'As A Service' models mean in terms of unlocking truly consumable testing services aided by the creation of a Global Testing Marketplace (GTM).