Improving leverage, scale and visibility by implementing Quality as a Platform

Harish Narayan: Director - Technology, Vistaprint

Vistaprint Make an impression.

About Vistaprint

We empower millions of people worldwide to:
Make a living Make a connection Make a difference

- We provide affordable, low-quantity, high-quality customized products for small and micro businesses wanting to make a professional impression with customers
- Offerings include physical and digital products
- We operate as a direct-to-customer marketing channel
- Revenues of over $1B in FY2012 with a typical YoY growth rate of around 20%.

Vistaprint Make an impression.

Problem Statement to Vision

Needed long-term strategy for how QA, its practices and systems would evolve to support our complexity and growth

Scale: Limited use of approaches for effectiveness and need for systems thinking culturally
Obj: Enable and support multi-year global growth cohesively with people, process, infrastructure and systems

Leverage: Increasing duplication in practices & tools and cost of maintenance
Obj: Improve practices and systems to enable effectiveness (find more) and efficiency (do more)

Visibility: Point solutions and practices
Obj: Ability to systemize and empower decision-making across a broader set of people.

Envisioned - Quality as a Platform

Vistaprint Make an impression.

3/14/13 3

Why a world-class Test Management System?

Problems / Needs	Initiatives
Multiple repositories capturing test information	Deploy Test Management System **(HP ALM)**
Needed a way to determine **test coverage** by area	Structure Test Plan the same as the software taxonomy
'Limited to no **reuse**' and no structured approach to test design leading to **inefficiencies**	Use of templates and building blocks to make test architecture modular

Vistaprint Make an impression.

3/14/13 4

Why implement an Automation Platform?

Problems / Needs	Initiatives
Large set of scripts with **no test objectives**	Deploy HP ALM **integrated** with automation
Multiple automation frameworks Needed a framework that members outside of the automation team could use and extend	Implement **Unified Automation Platform** (UAP)

Our automation platform is home grown as it best fit our organization needs

Functionality *Extensibility* *Scalability* *Usability* *Efficiency*

Vistaprint Make an impression.

3/14/13 5

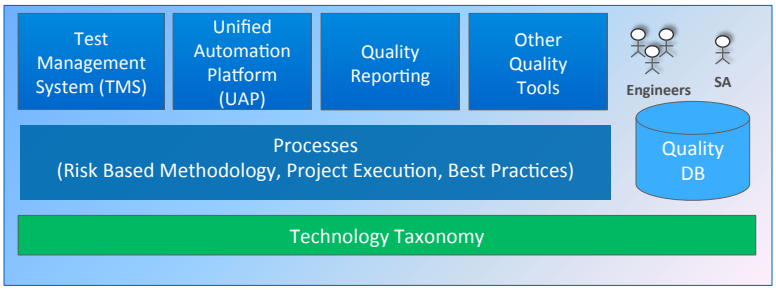
Why extend to a 'Quality Platform'?

Problems / Needs	Initiative
Operational model would not support projected business scale without **significant expense** and risk	Implement the **Quality Platform** with HP ALM and UAP as cornerstones, integrated with a quality DB and reporting system.
Provide **comprehensive reporting** to help in making timely decisions	
Highlight **system instability** and drive component and architecture changes	

Vistaprint Make an impression.

3/14/13 6

The Vistaprint Quality Platform



Platform that integrates specific quality-related components and correlates information from other systems to:

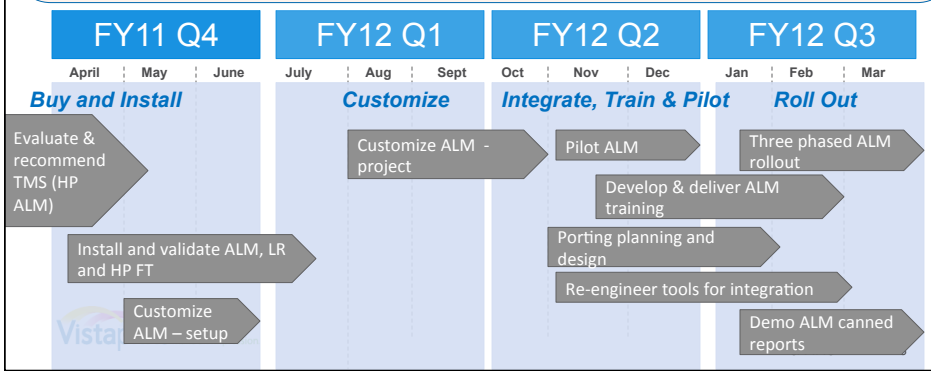
- Drive test planning, risk-based test execution, and effective triage
- Identify projects, releases & deployments that are 'at risk'
- Provide comprehensive reporting to help in making timely decisions
- Highlight system instability, drive component refactoring and architecture changes
- Support QA, development and operations organizations.

Vistaprint Make an impression.

Platform Development – Org Approach

Key Takeaways

- *Executive sponsorship*
- *Setting expectations and gaining ongoing buy-in*
- *Growing a software team to build and operate the platform*
- *Timely and periodic communication on progress*
- *Engaging with a partner*
- *Balancing implementation and adoption against our ongoing three week release cycle*



Some numbers for later use…

- 6000+
- 4-times
- 50%
- 30%
- Around 70%
- Doubled in 18 months

Vistaprint Make an impression.

Test Management – Now…

Outcome and Benefits

- **One repository:** Deployed **HP ALM**
  - Over 6000 tests and configurations under management
- **Test coverage:** Test plan structure mirrors our technology taxonomy
- **Test efficiency:** Modular test architecture is leading to significantly lesser number of tests being written.

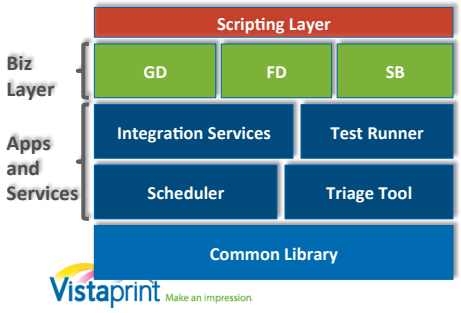
Why HP ALM?

- Rich set of features
- Ability to integrate with other systems
- Long-term support for future growth
- Reach into development and operations
- Support for effective test design
- Robust support for metrics and reporting
- Global reach of support.

Vistaprint Make an impression.

Unified Automation Platform (UAP)

Problems / Needs	Solution
Large set of scripts with **no test objectives**	Deployed HP ALM **integrated** with automation **(using HP's APIs & Web Services)**
Multiple frameworks, each deficient in functionality, with **significant maintenance costs (45 to 60%)**	Implemented **Unified Automation Platform** (UAP)
A framework that members outside of the automation team could use and extend	

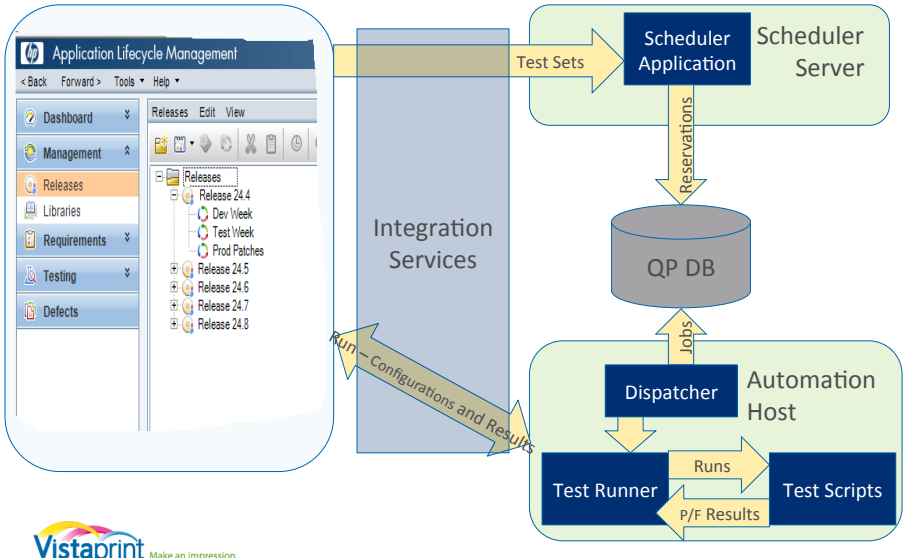


Vistaprint Make an impression.

Outcome and Benefits

- Supports **multiple test objectives**
- **Integrates** seamlessly with ALM and JIRA through Integration Services
- Offers **rich framework** with thin scripting layer
  - reduces maintenance time **(plan: 25%)**
  - promotes broader use
- A rule-based triage system to help **accelerate and improve diagnosis** post-run.

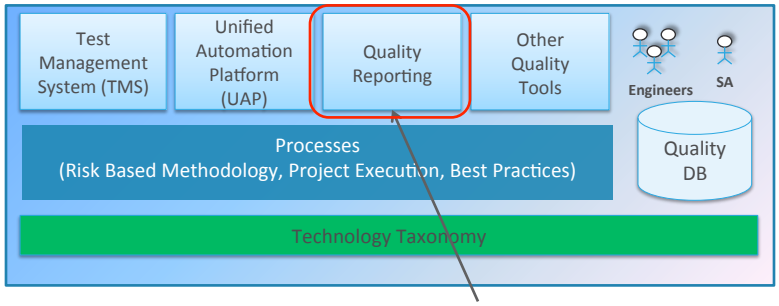
ALM Integrated with Automation Platform



Vistaprint Make an impression.

3/14/13 17:26 12

Quality Platform - Reporting

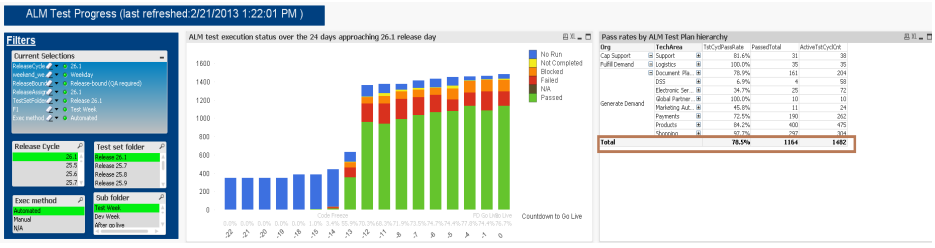


Need	Solution
Provide **comprehensive reporting** to help in making timely decisions	Implement Vistaprint's **Quality Reporting Platform** • To provide real-time and historical information to decision-makers • Leverage ALM wherever possible.

Vistaprint Make an impression.

The Reporting Initiative

- Selected the technology – QlikView
- Focus on 3 pegs – Progress, Coverage and Quality
  - Release test progress report (tickets and regression tests) that helps us manage scope – In Use
  - Test asset health / coverage report that helps us manage our test assets – In Definition
  - Defect based quality report – In Q4 FY13.



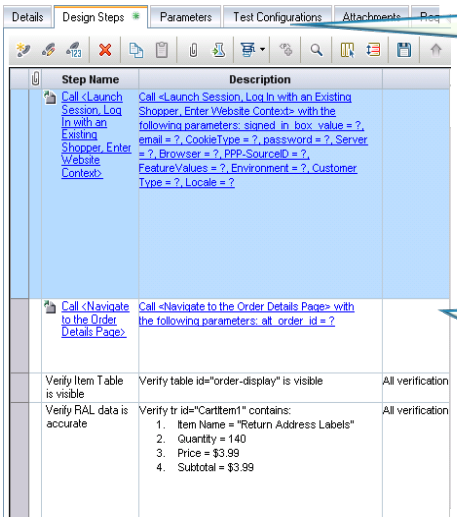
Vistaprint Make an impression.

Q & A

Thank You

Backup Slides

Test Architecture

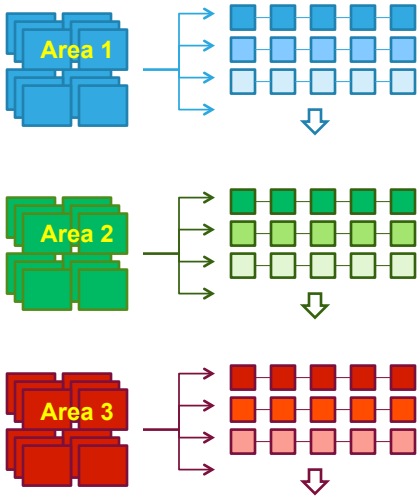


Time Savings
*Use of **configurations** reducing the number of tests by 4 times*

Effectiveness
Templates representing around 50% of Area Acceptance Test steps

Reuse
Same templates representing 50% of regression test steps

Test Architecture @ 10,000 ft



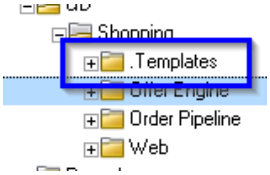
Building blocks are individual (parameter-driven) actions performed on a feature.

Templates are strings of building blocks linked together to create flows through an area of the application.

Example Test Case

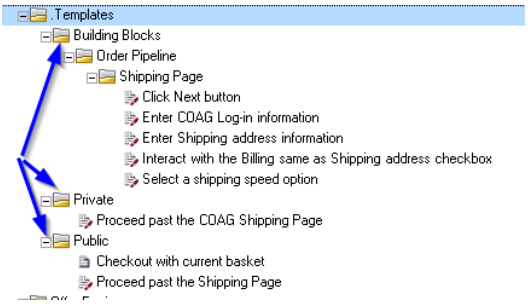
Where Templates Live

A template directory will at the Area level. A period is placed before the folder name to allow it to sort first alphabetically.



Under each template directory is a three-pronged structure

- **Building Blocks** for the area
- all **Public** actions that anyone might perform frequently
- **Private** actions that only an area would need.

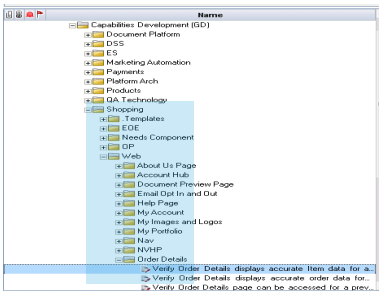


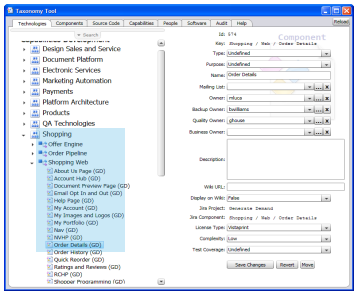
Vistaprint Make an impression.

3/14/13 19

ALM Customizations

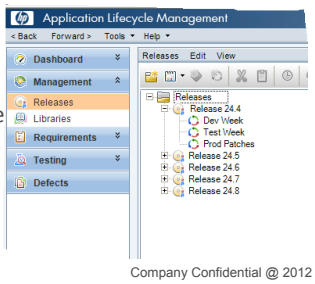
Test Coverage by area

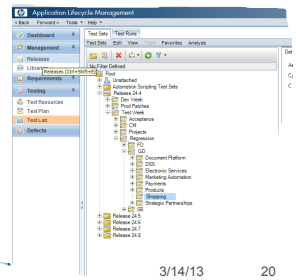




Customized the Releases and Test Lab module structure for

- objective and cycle-base test execution
- Integration with reporting.

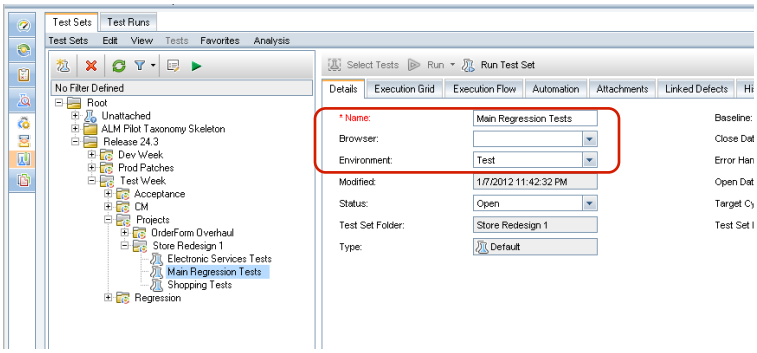




Vistaprint Make an impression.

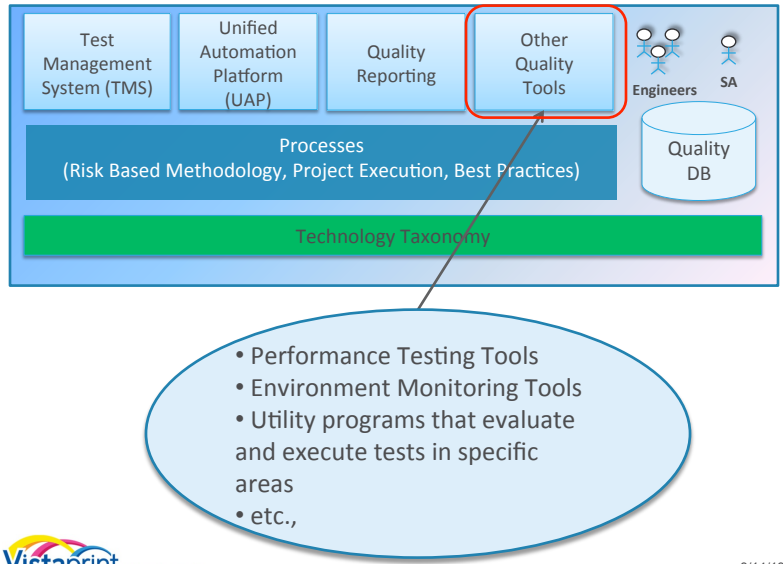
ALM Customization - Test Set Parameter Overrides

The Test Lab module has the ability to override a predefined set of parameters across all tests in a test set. Parameter overrides done through custom fields on the Test Set Object.

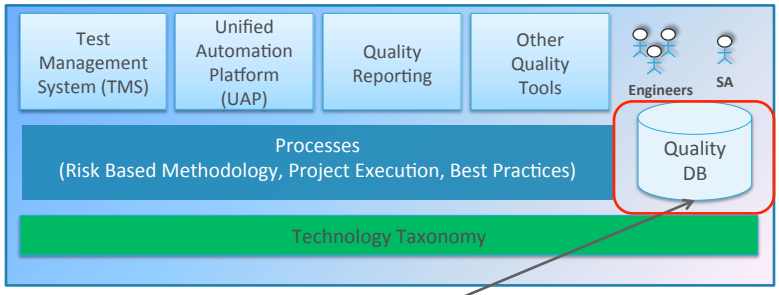


Overrides currently implemented are Browser and Environment

Quality Platform – Other Tools



Quality Platform – Quality DB



- Test run and triage information
- Information aggregated from other systems
- Derived information (metrics)
- etc.,