



Hewlett Packard
Enterprise

Anatomy of the Agile enterprise

Working together to bring business value to your organization

Get Started

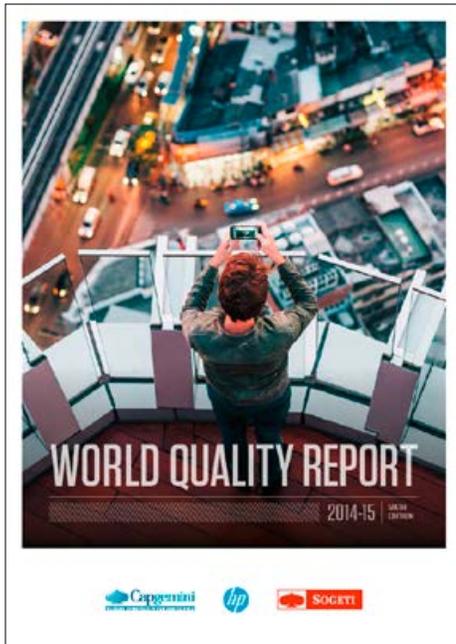




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Agile at a glance

The goal of Agile software development is to achieve high predictability and quality by knowing the status of your projects at any point in time. It works by constraining key variables:

- **Time:** Development is done in sprints, which are short, equal-length periods of development, so you always know when a sprint starts and ends.
- **Costs:** You can create your teams up front and constantly monitor their capacity, so you can control total project costs and avoid over-committing and exhausting the team.
- **Quality:** Agile software development incorporates unit testing, an essential part of coding. Code without unit tests is not production code, and this is embodied in the definition of “Done” for each deliverable.

However, by maintaining a backlog of work that is constantly groomed and re-prioritized, we ensure that the features that are most valuable to the customer are always developed and delivered first. Teams deliver working software frequently, so they can commit to releasing on a particular date and avoid over-committing themselves; however, all content the team does deliver is production quality.

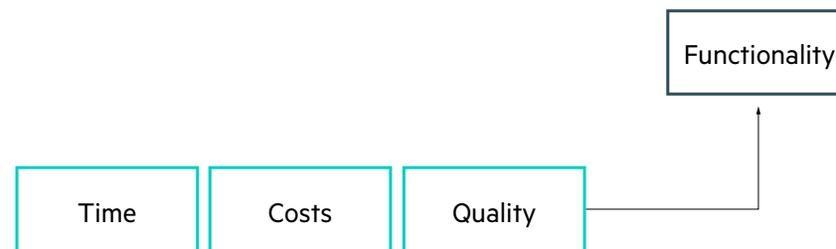


Figure 1. Agile at a glance. Functionality is variable, everything else is fixed

As teams adjust to Agile software development practices, they become better at calculating their capacity and estimating the size of tasks. Consequently, their predictability increases, and they begin to deliver consistently on the content that they commit to producing.



Speed is everything

Even when delivering at cadences less than a week, 20% of organizations want to deliver even faster.¹



The Agile Manifesto

The Agile Manifesto was published in 2001 by a group of programmers after they met to discuss lightweight programming methods. Here are the points of the manifesto, from agilemanifesto.org:

*We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:*

Individuals and interactions over **Processes and tools**

Working software over **Comprehensive documentation**

Customer collaboration over **Contract negotiation**

Responding to change over **Following a plan**

That is, while there is value in the items on the right, we value the items on the left more.

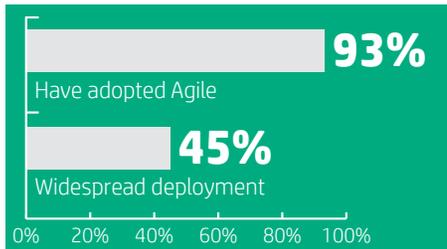
Agile software development is based on these principles. When Agile development is scaled to the enterprise however, the items on the right become more significant. In addition, architecture becomes a factor that teams must put on the table and account for up front. So at the enterprise level, one additional principle becomes critical:

Evolving and reusing enterprise frameworks and patterns

¹ Forrester December 2013, "Continuous Delivery and the Race for Better Business Performance."



Is Agile in use?



93% of IT and QA and testing leaders report they have adopted Agile;² however

Just 45% of organizations report widespread use of Agile approaches.³

The Agile enterprise

An Agile enterprise is one that strives to implement Agile development practices across all levels of the organization. The Scaled Agile Framework (SAFe—scaledagileframework.com) is widely accepted as a best-practice guide to scaling Agile to the enterprise.

An Agile enterprise can be seen as having three layers. At the highest level, the business strategy is defined in terms of program portfolios. Below that, Agile teams converge to provide value for their programs through release trains. A release train is a set of aligned Agile teams working together to deliver releases at regular intervals. In the third level, Agile teams plan and develop the user stories that deliver value to the consumer.

There are three main stages of Agile software development that cut across the organizational levels. In the discovery stage, the programs in the portfolios are assessed and program backlogs are defined. In the implementation stage, the program backlogs are broken down into release and sprint backlogs, and the items in the sprint backlogs are implemented by the Agile teams. Each program increment is then deployed in the release stage.

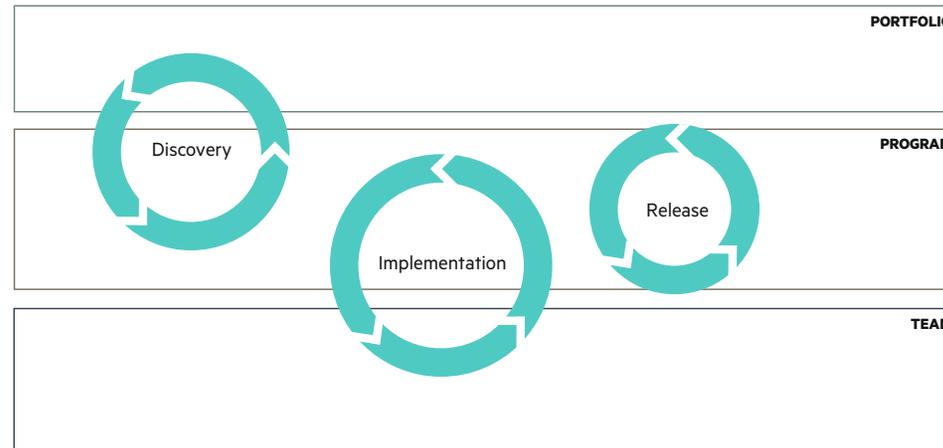


Figure 2. Agility throughout the organization is a continuous cycle of discovery, implementation, and release

² 2014–2015 WQR, Agile Testing Statistics.

³ Forrester December 2013, “Continuous Delivery and the Race for Better Business Performance.”



64% report lack of a good testing approach that fits with Agile as the main obstacle to Agile testing success.⁴



The enterprise agility adoption spectrum

In between traditional organizations and fully Agile enterprises there is a wide spectrum of positions in which an enterprise might find itself. Two positions in particular, however, merit further discussion as many organizations find themselves in one or the other: team-driven (bottom-up) Agile and enterprise-driven (top-down) Agile.

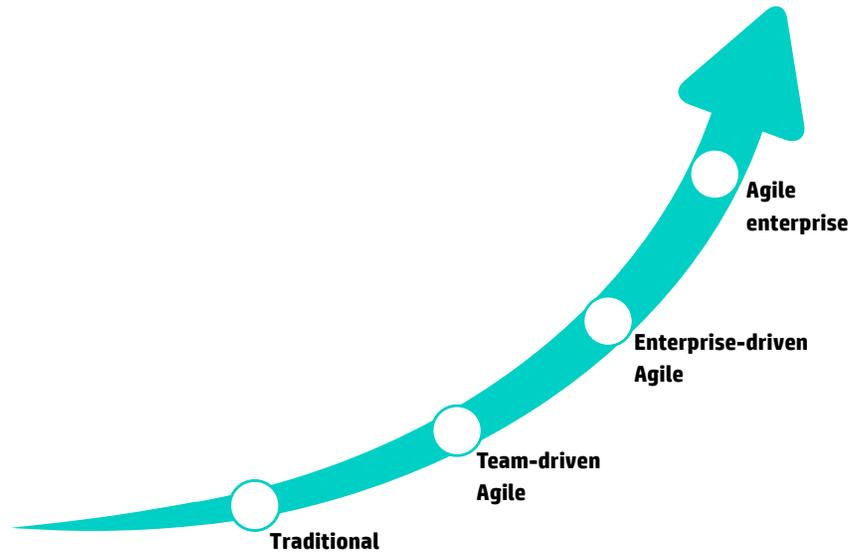


Figure 3. The enterprise agility adoption spectrum

⁴ 2014–2015 WQR, Agile Testing Statistics.



Team-driven Agile

In many organizations some of the developers and testers decide to break from tradition and adopt Agile practices. These organizations are “team-driven” as the development teams are the main proponents of Agile, yet they also want to preserve well-established practices that work in their organization.

In this type of organization, project management continues in the traditional manner, with product roadmaps often being defined a year or more in advance, which requires long-term upfront planning and commitment. Because the developers are driving the change, they usually start with a small number of teams that take the plunge and become Agile. Other teams gradually migrate over the next few years.

These organizations continue to manage their requirements in tools such as HPE Application Lifecycle Management (ALM), as well as their tests and defects. Testing is mostly done by QA teams. The Agile teams typically use HPE Agile Manager for managing the releases and the release/sprint backlogs. The user stories and requirements, as well as other entities, in HPE Application Lifecycle Management and HPE Agile Manager are synchronized with each other to ensure consistency.

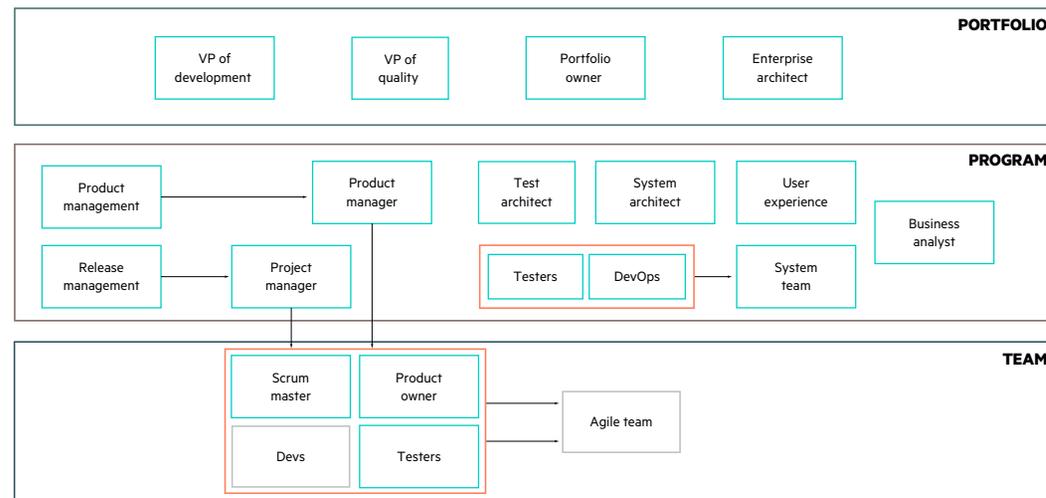


Figure 4. When Agile is led by developers, they typically use HPE Agile Manager (in gray) while the rest of the organization uses HPE ALM (in blue)



Organization-driven Agile

Once the organization sees the value that the Agile development teams are delivering via Agile practices, a shift often takes place. Management recognizes that the organization as a whole needs to become Agile and backs the move to Agile. Management is prepared to give up the traditional portfolio and project management processes and move toward shorter-term product roadmaps that can accommodate three or more releases per year.

In this scenario, most of the organization is soon focused on empowering the teams, and most, if not all, of the teams become Agile. HPE Agile Manager is typically used at the program level for managing the backlogs, and HPE Application Lifecycle Management is used for test and defect management. Here too, the relevant entities are synchronized between HPE Application Lifecycle Management and HPE Agile Manager.

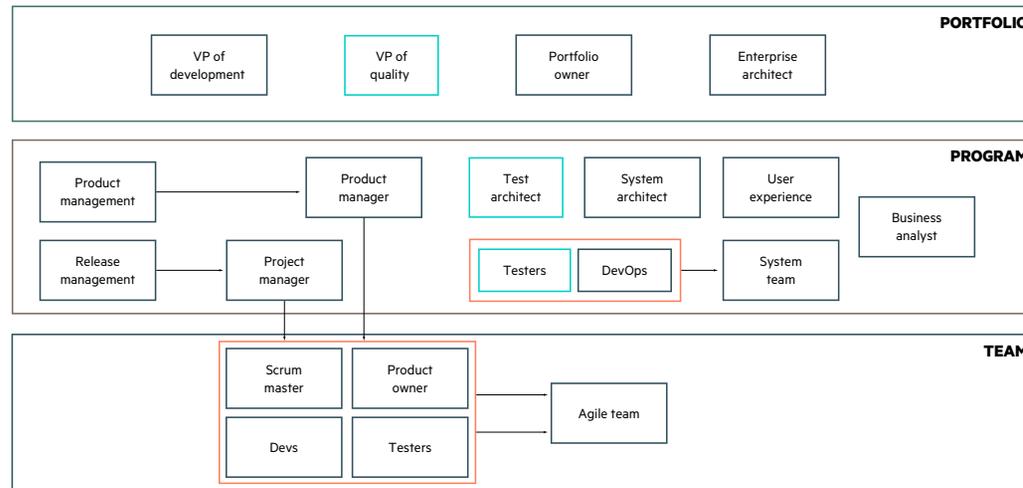


Figure 5. When Agile is pushed by the organization, testing activities are managed in HPE ALM [in blue] while the rest of the organization uses HPE Agile Manager [in gray]





Setting up for success

The next sections of this interactive brochure provide a tour through each phase of Agile development. Whether a phase is done using HPE ALM or HPE Agile Manager depends on your organization's situation. We'll highlight the alternatives where applicable.

Setting up HPE ALM

In order to facilitate your move to enterprise Agile, you need to ensure that:

- Each project has the following requirement types configured:
 - Theme
 - Feature
 - User story
- The section of the requirements tree to be synchronized has three levels of hierarchy, in the order of theme, feature, user story.

Setting up HPE Agile Manager

HPE Agile Manager must be configured so that:

- For each user in ALM, there is an equivalent user in HPE Agile Manager.
- HPE Agile Manager is enabled for synchronization; this can be done by opening up a ticket requesting that the project be enabled for synchronization.

Setting up the Synchronizer

- The Synchronizer must be able to access both your ALM and your Agile Manager servers.
- See the Synchronizer help for full details on configuring your system.





The application development lifecycle in enterprise Agile

Releases and sprints

Releases and sprints are managed in HPE Agile Manager, regardless of whether the development group is leading the Agile agenda or the organization is behind it. This gives the developers full control over the length of sprints and the cadence of the project.

hp Agile Manager Configuration				
Release		Release Details	Sprints	Teams
Release: HP Media Stor... ▼				
Sprint Duration:	2 Weeks	Current Sprint(s):	No current Sprints	
Sprints in Release:	11 Sprint(s)	Release Dates:	Feb-20-2014 till Jul-10-2014	
+ Add Sprint + Add Sprint to End of Release ⇄ Shift Sprints ✕ Remove from Release 🗑️ ↻				
Name	Start Date ^	End Date	Assigned Teams	
<input type="checkbox"/> Sprint 1	Feb-20-2014	Mar-05-2014	All Teams	
<input type="checkbox"/> Sprint 2	Mar-06-2014	Mar-19-2014	All Teams	
<input type="checkbox"/> Sprint 3	Mar-20-2014	Apr-02-2014	All Teams	
<input type="checkbox"/> Sprint 4	Apr-03-2014	Apr-16-2014	All Teams	
<input type="checkbox"/> Sprint 5	Apr-17-2014	Apr-30-2014	All Teams	
<input type="checkbox"/> Sprint 6	May-01-2014	May-14-2014	All Teams	
<input type="checkbox"/> Sprint 7	May-15-2014	May-28-2014	All Teams	
<input type="checkbox"/> Sprint 8	May-29-2014	Jun-11-2014	All Teams	
<input type="checkbox"/> Sprint 9	Jun-12-2014	Jun-25-2014	All Teams	
<input type="checkbox"/> Sprint 10	Jun-26-2014	Jul-09-2014	All Teams	
<input type="checkbox"/> Sprint 11	Jul-10-2014	Jul-10-2014	All Teams	

Figure 6. Defining sprints in HPE Agile Manager

The application development lifecycle in enterprise Agile

Backlog

The backlog is the set of themes, features, and user stories that may be developed. The themes are typically entered into the system of record by the business analysts and project managers and are elaborated by product managers into features.

Team-driven

When Agile is being led by the development teams, HPE ALM is the system of record. Business analysts and project managers develop the high-level theme backlog in HPE ALM, which is synchronized with HPE Agile Manager. The developers, who work in HPE Agile Manager, further elaborate the backlog into more detailed feature descriptions and user stories.

The screenshot displays the HP Application Lifecycle Management (ALM) Requirements interface. The top navigation bar includes the HP logo, 'Application Lifecycle Management | Requirements', and user information (Project: DEFAULT/Demo2, sa, Logout). Below the navigation bar, there are tabs for 'Manage' and 'Author'. The breadcrumb trail shows the path: Requirements > HP Media Store > Booking System > Payment Methods > Credit Card. The main content area is divided into a left sidebar and a right main panel. The sidebar contains a search bar and a tree view of requirements, with 'Credit Card' selected under 'Payment Methods'. The main panel shows the details for requirement ID 179, 'Credit Card'. It includes fields for Name, Requirement Type (User Story), Req Parent (Payment Methods), Product (HP Media Store), Priority (4-Very High), Reviewed status (Not Reviewed), Target Release (Release 10.5), Target Cycle (Cycle 1 - New Features), Direct Cover Status (Not Covered), Author (latex_aim), and Creation Date (01/23/2011). A description field contains the text: 'Currently, only payment by credit card must be accepted. On ordering, the customer must specify the credit card details.'

Figure 7. Defining the backlog as requirements in HPE ALM



The application development lifecycle in enterprise Agile

Enterprise-driven

When Agile is led by the organization, HPE Agile Manager is the system of record. Releases, sprints, and backlogs are defined and managed in HPE Agile Manager, and pushed to HPE ALM by the Synchronizer.

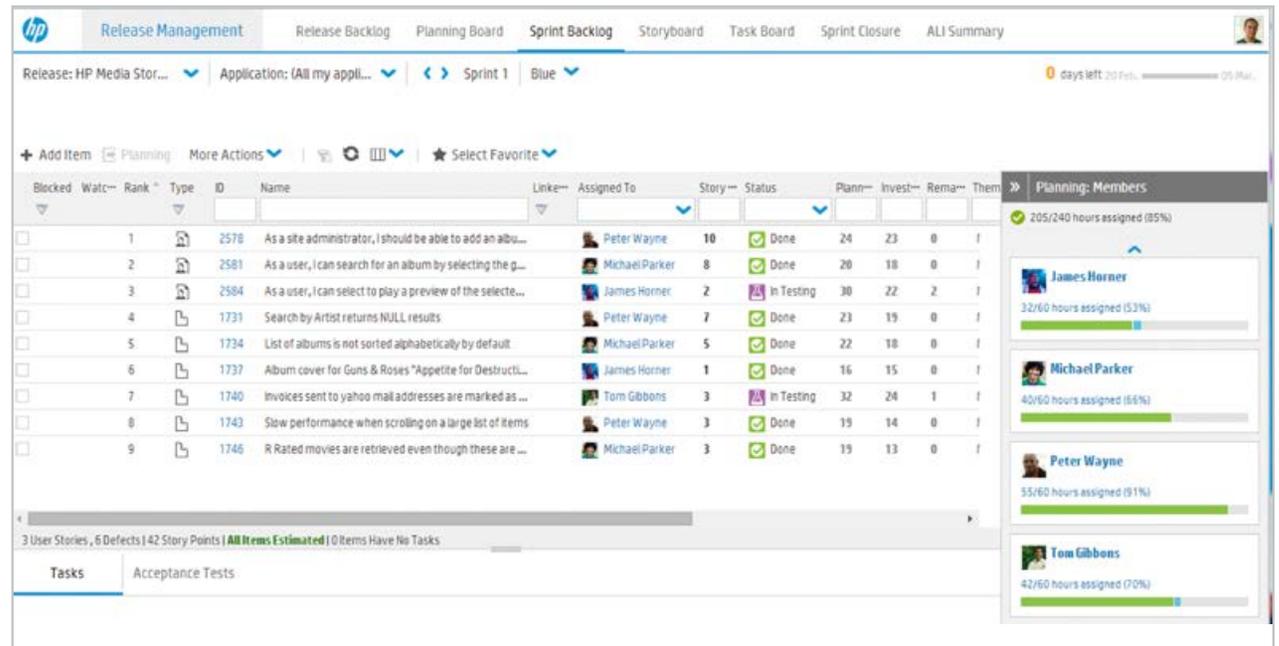
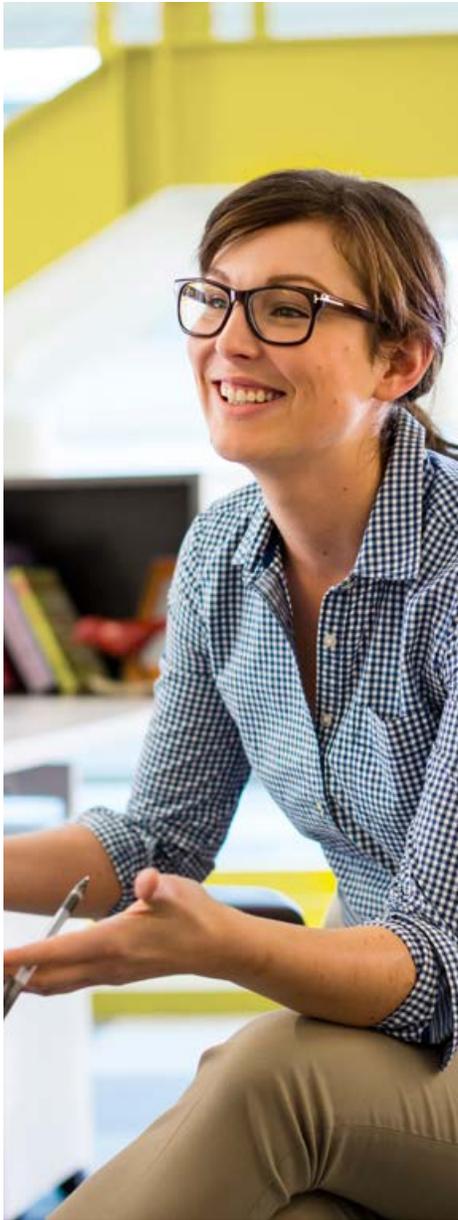


Figure 8. Defining a sprint backlog using HPE Agile Manager

It should be noted that in some organizations, high-level project-spanning themes are defined and managed in a portfolio-management tool such as HPE Project and Portfolio Management (PPM), which is integrated with HPE ALM and HPE Agile Management for further elaboration and development, as described above.





The application development lifecycle in enterprise Agile

Development

Product owners work with Agile teams to break the features down into user stories and assign the user stories to sprints for Agile development. Typically, the user stories are further broken down into discrete tasks.

In both team-driven and enterprise-driven situations, developers will only work in HPE Agile Manager, either directly or through the plug-ins that connect their IDEs to HPE Agile Manager. They use HPE Agile Manager to view their tasks and defects and update the status of these tasks and defects, such as the time invested and so on.

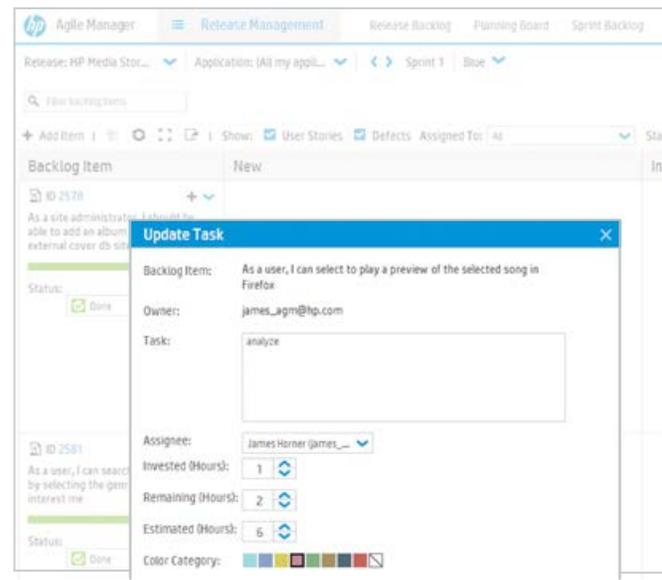


Figure 9. Updating a task in HPE Agile Manager



The application development lifecycle in enterprise Agile

Testing

Testers will manage their tests in HPE ALM. In a team-driven scenario, the tests are traced to requirements, which originate in HPE ALM and are synchronized to HPE Agile Manager.

In an enterprise-driven scenario, the backlog originates in HPE Agile Manager, and is synchronized to HPE ALM. Either way, tests are entered into HPE ALM and are linked to the requirements in HPE ALM for coverage.

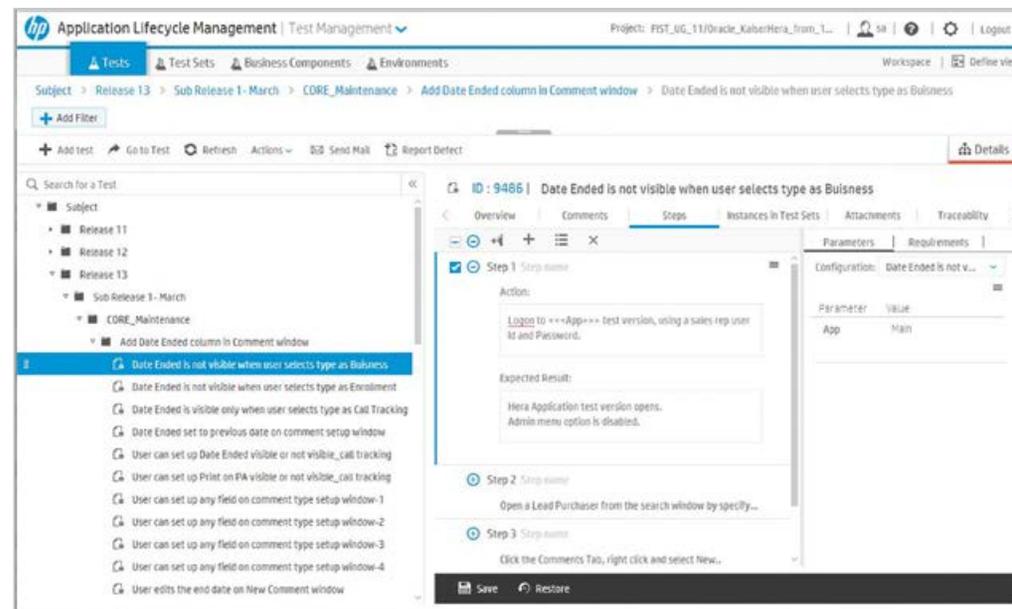


Figure 10. Managing tests in HPE ALM



The application development lifecycle in enterprise Agile

When the requirements and backlog are synchronized, the cover status is always synchronized back into HPE Agile Manager, regardless of whether HPE ALM or HPE Agile Manager is the system of record. The cover status can be viewed for each backlog item in HPE Agile Manager that is synchronized, and can also be viewed in HPE Agile Manager’s “Feature Direct Coverage Status” on the dashboard.

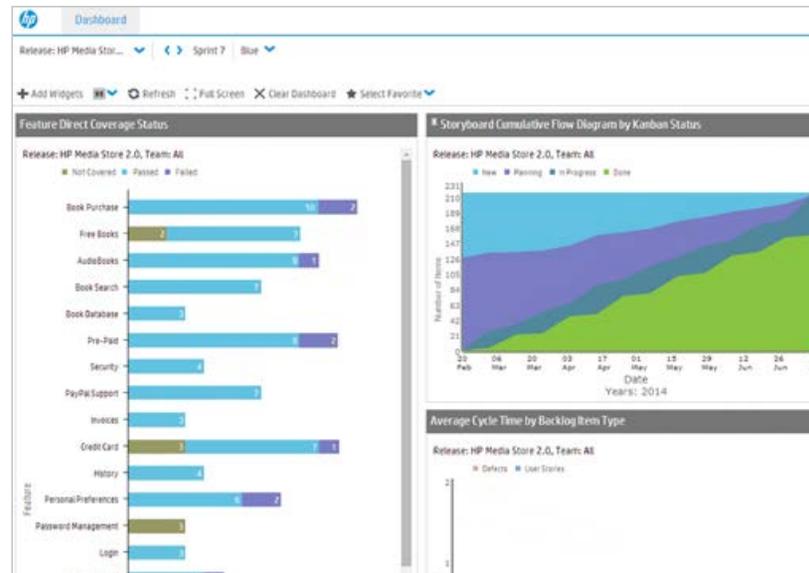


Figure 11. HPE Agile Manager dashboard, displaying the Feature Direct Coverage status graph on the left

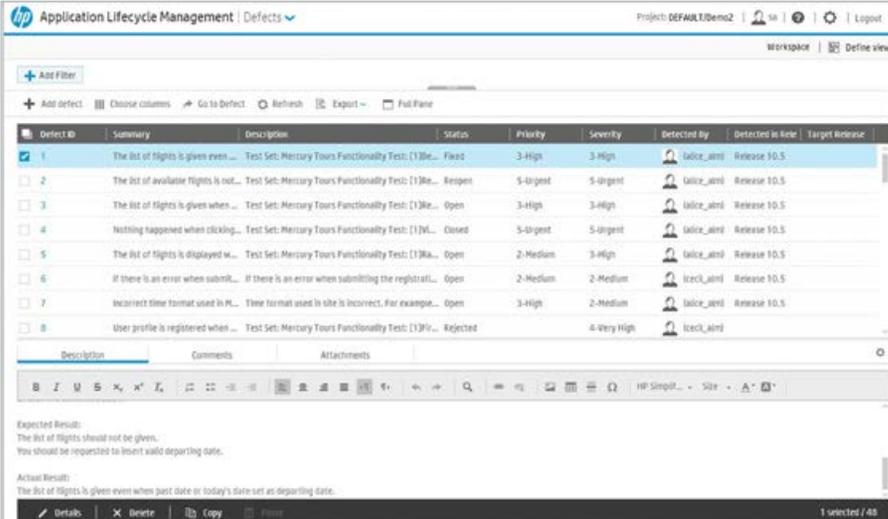


The application development lifecycle in enterprise Agile

Defects

In general, defects are also managed in HPE ALM, regardless of whether Agile is team-driven or enterprise-driven. This is because defects reported by developers during development are typically fixed on the spot, or are entered into HPE Agile Manager to be fixed very quickly. But defects detected by testers must be tracked and tested through HPE ALM, so they are entered in HPE ALM and synchronized into HPE Agile Manager, where they will be marked as fixed by developers. This status will be synchronized back to HPE ALM and the fix can be tested.

Occasionally, a developer may find a defect that should be reported in HPE ALM. To facilitate developers in this situation, the Synchronizer is typically configured to synchronize only new HPE Agile Manager defects that fall into a specific “favorite,” for example, where a user-defined field called “Testable” is set to “Yes.” The developer enters the defect in HPE Agile Manager, and sets the field’s value to “Yes” in order for it to be picked up by the Synchronizer and added to HPE ALM.



The screenshot shows the HPE ALM Defects page. The table contains the following data:

Defect ID	Summary	Description	Status	Priority	Severity	Detected By	Detected in Release	Target Release
1	The list of flights is given even ...	Test Set: Mercury Tours Functionality Test: (13)...	Fixed	3-High	3-High	alice_alm	Release 10.5	
2	The list of available flights is not...	Test Set: Mercury Tours Functionality Test: (13)...	Reopen	5-Urgent	5-Urgent	alice_alm	Release 10.5	
3	The list of flights is given when ...	Test Set: Mercury Tours Functionality Test: (13)...	Open	3-High	3-High	alice_alm	Release 10.5	
4	Nothing happened when clicking...	Test Set: Mercury Tours Functionality Test: (13)...	Closed	5-Urgent	5-Urgent	alice_alm	Release 10.5	
5	The list of flights is displayed w...	Test Set: Mercury Tours Functionality Test: (13)...	Open	2-Medium	3-High	alice_alm	Release 10.5	
6	If there is an error when submit...	If there is an error when submitting the registrat...	Open	2-Medium	2-Medium	icec_alm	Release 10.5	
7	Incorrect time format used in PL...	Time format used in site is incorrect. For example...	Open	3-High	2-Medium	alice_alm	Release 10.5	
8	User profile is registered when ...	Test Set: Mercury Tours Functionality Test: (13)...	Rejected		4-Very High	icec_alm		

Figure 12. Managing defects in HPE ALM



The application development lifecycle in enterprise Agile

Enterprise-driven

In an enterprise-driven scenario, HPE Agile Manager is the system of record, so developers must have insight into changes. Hence, HPE ALI is connected to HPE Agile Manager.

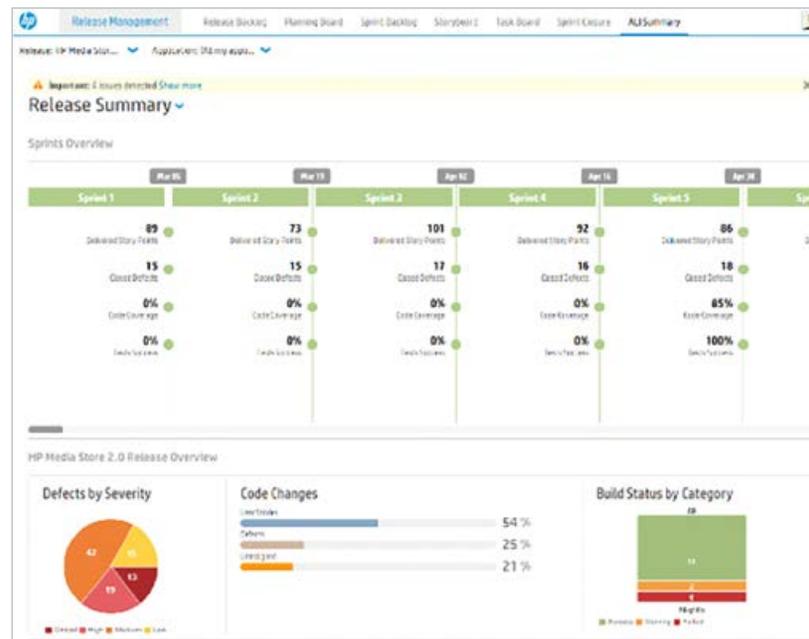


Figure 14. Release summary information from HPE ALI can be viewed in HPE Agile Manager



Take the next step on your path to enterprise Agile

The benefits of Agile are well documented, and the business advantages only increase as Agile is scaled up to the enterprise.

Whether your Agile adoption is team-driven or enterprise-driven, HPE offers enterprise Agile solutions that can help you take maximum advantage and transform the “promise” of enterprise Agile into actual business results. HPE ALM, HPE Agile Manager, and HPE ALI work together to manage your enterprise Agile development lifecycle across the portfolio, program, and team levels.

Get more information about the capabilities of HPE Agile Manager at hpagilemanager.com

Or experience it yourself today with a free, instant trial by visiting saas.hp.com/try/agile-manager

You can find more information about HPE Application Lifecycle Management at hp.com/go/alm



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