



Tideway Pushes the Boundaries of Automated Application Mapping

Ptak, Noel & Associates (PNA) has long called for management solutions to improve automated understanding of how the production computing environment delivers business applications, services and actionable information to help IT staff achieve their business objectives. Tideway Systems has also championed this cause since its inception in 2002. The Tideway Foundation solution has provided a combination of discovery, modeling and mapping capabilities to minimize the effort needed to maintain accurate intelligence about the operating environment. The latest release of Tideway Foundation enhances both its analysis and orchestration capabilities.



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What's new in Tideway Foundation 7

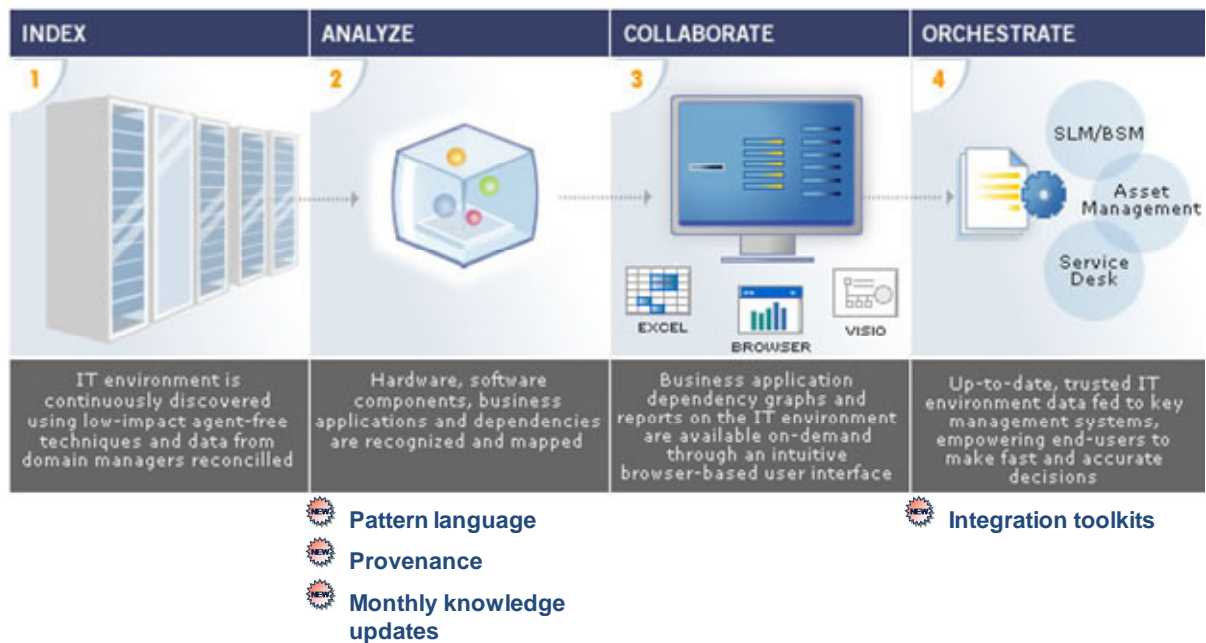


Figure 1: Tideway Foundation’s new capabilities. (source: Tideway Systems)

One aspect of Tideway Foundation’s indexing and analysis is the providing of fingerprints (highly specific templates of what the technology does and what the installation of the technology should look like) to the analysis engine to speed the discovery of relationships between technologies. Tideway Foundation 7 improves on the fingerprinting approach with a

new pattern language capability. The pattern language provides richer modeling capabilities for custom applications than the existing fingerprint technology because it allows enterprises to convert the logical architecture of their custom business applications into a working operational model, which can be used to identify the application in the production environment. It can also represent asset-related concepts in the operational application model. For example, lifecycle events, such as server upgrades or patch installations, that affect application components that could break a traditional fingerprint representation, would not affect the patterns created with the new technology. This cuts down the cost of maintaining custom business application models.

In PNA's opinion, the pattern language approach addresses two key issues: relating the developer's logical view of an application with its real-world instantiations and dealing with constant infrastructure changes to those real-world instantiations. One of Tideway's customers made the point that they wanted to leverage fingerprinting beyond off-the-shelf technology available from Tideway's knowledge base. Unfortunately, the custom fingerprints they created were too difficult to maintain because every infrastructure change had to be reflected in the fingerprint. However, with the pattern language, they could create models of their custom applications, based on application architectures available from the development team, that were robust enough to adapt to the daily configuration changes of their production environment. In other words, the pattern used to map each application instance in the production environment remained the same even as dozens of IT administrators upgraded and patched the infrastructure supporting each application instance.

Tideway has also incorporated the notion of provenance into this release. Provenance, in this case, refers to the evidence of how Tideway Foundation builds its relationship maps. Every time Tideway Foundation makes a determination about a configuration item or application mapping – e.g., whether it exists, has been removed from the environment, or has been changed – the solution creates a chain of evidence showing how it arrived at that determination. This allows administrators to quickly understand the logic behind the relationship maps that Tideway Foundation creates. For example, administrators can understand not only when a configuration item attribute changed but also how the solution determined that the attribute changed.

One of the reasons configuration repositories have failed in the past is that no one trusted the accuracy of the data they contained. Much of the advancement in configuration management has involved providing automated capabilities to address the underlying causes of data inaccuracy, including:

- Manual data collection processes – remedied with faster, more accurate discovery technologies.

- Different discovery sources providing different information about the same asset – remedied with various data reconciliation schemes.
- Increasing frequency of changes the composition of the application or service – remedied with Tideway's pattern language approach.

However, all of this automation and intelligent analysis can create its own level of distrust if there is no way for IT managers to quickly understand how the analysis engine arrived at its decisions. It is the age-old human condition – we distrust people and things that we do not understand. Once we understand how someone thinks, we begin to trust their decision-making. In the case of automated analysis and modeling building, IT managers need to understand how the analysis engine “thinks,” without becoming a mathematical genius or an algorithm geek. Tideway is addressing this trust issue by providing a chain of evidence that can be understood, and can be independently verified if the need arises.

Tideway also improved its integration toolkits with export capabilities to facilitate data integration. The export adaptor extracts the data subsets required by various third-party operational products from the configuration data discovered by Tideway Foundation. It then converts the data into the format of the product's internal data-store.

Product Editions Target Specific IT Projects

Tideway Foundation 7 is now packaged in three editions:

- Platform edition – Servers, operating systems and installed management agents are automatically discovered and indexed. Hardware-OS relationships are mapped and data from various agent sources is reconciled.
- Operations edition – Adds support for virtualization, server clusters, network devices, and software identification and versioning.
- Business edition – Adds full relationship mapping for complex business applications and services.

In addition, the existing Tideway Knowledge Update service is moving to a monthly update – organizations have hundreds of off-the shelf products in their environments – as vendors have increased their time to market with new releases, patches and updates, and enterprises need to incorporate new product information into their knowledgebase. Tideway therefore is now offering monthly, quarterly and annual updates to new knowledge content via the Tideway Knowledge Update service. The model of the world will be current without the need for custom modeling.

In PNA's opinion, prospective customers benefit because the editions can be applied to specific projects, without requiring an enterprise-wide initiative or budget. For example, specific point-in-time IT projects, such as inventory audit, OS migration, stranded asset recovery, or datacenter consolidation, would benefit from the Platform edition. Similarly, activities such as software version identification and management or reporting the compliance of virtualized environments could be addressed with the Operations edition. These projects provide immediate ROI value to IT while also improving the organization's configuration management maturity because the solution continuously maintains the accuracy of the inventory and configuration data. Once most of the manual effort of documenting datacenter inventory and configurations for these projects is eliminated, IT can focus their resources on linking their inventory knowledge to their business applications and services.

An interview with one of Tideway's customers illustrates this point. The customer's strategic infrastructure plans involve a large-scale implementation of SOA, custom application components and virtualized servers. Therefore, their strategic need is a solution with a modeling capability that can keep pace as the composition of their applications changed, and a discovery capability that could keep up with their dynamic, virtualized run-time environment. However, the trigger event for implementing Tideway Foundation was automating the infrastructure inventorying effort needed to move their disaster recovery datacenter to a new location. The Platform edition allowed the customer to implement a strategic solution for a tactical project.

What's Next?

Tideway plans to apply its technology to the burgeoning datacenter automation market. Currently most solutions in this market focus on designing and automating specific workflows or processes, and Tideway does integrate its operational intelligence into those solutions. However Tideway is also focused on supporting the more ad-hoc and collaborative activities by providing individuals the ability to browse, search, and compare IT-related knowledge. Tideway's vision includes:

- A knowledge network of unstructured and semi-structured information that is both automatically populated with patches, demos, user guides, and other contextual information from vendor sources and organically populated with best practices, forum-based Q&As, feature requests, etc., from the user community.
- A user-centric portal to access the knowledge with personalized dashboards and reporting.
- An expanded IT model that not only indexes the run-time environment and maps its relationships to business applications, but provides links to related information in the knowledge network and maps connections amongst people managing the environment.

Tideway's vision has been obviously inspired by the growing number of online communities and the increasing sophistication of the collaboration technologies used by these communities (Web 2.0). On the surface, applying collaboration concepts to datacenter automation can seem a bit farfetched. Yet one problem with IT processes is that they are a combination of highly rote activities and highly ad-hoc collaborative activities. Tideway's vision involves streamlining those ad-hoc activities by speeding access to information and knowledge garnered from past experience.

PNA believes the real value comes from automatically directing users to content or contacts related to their particular issues. As environments become more dynamic and complex, traditional vendor technical support must be supplemented by a community of other knowledgeable administrators familiar with troubleshooting technology interactions in a similar computing environment becomes very important. Consider an application manager troubleshooting a composite application involving a BEA application server connected to an SAP CRM solution being accessed through a Citrix environment. While each vendor will provide best practices for its own technology, the idiosyncrasies of those connections are uncovered only by users, and if this body of knowledge is shared, all enterprises benefit – hence Tideway's vision.

The Final Word

The dynamism of the production environment continues to grow even as the need for reliable performance and compliant configurations increases, with no end in sight. Advances in application development, service architecture, business process integration, and infrastructure virtualization will continue to increase the management complexity and dynamism of critical business applications, transactions and services. Business profitability depends on a computing environment configured for and managed to the optimal balance of performance, security and regulatory compliance. For enterprises to continue profitable operations, management tools must continue to push the boundaries of automated learning about complex and dynamic infrastructures. Tideway's new capabilities do just that.

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