GET INSTANT VISIBILITY ACROSS YOUR ENVIRONMENT WITH START-ANYWHERE APPLICATION MODELING

Today's enterprise companies need full visibility across their IT service management (ITSM) and IT operations (ITOps) environments to ensure continuous operations of mission-critical business services. By implementing advanced tools that can quickly discover and manage assets across clouds, data centers, hardware, software, and services, they're better able to prevent disruptions and reduce security and compliance risks, service bottlenecks, asset overspending, and more. Application modeling is a key component of every asset discovery and dependency strategy.

Why do you need application modeling?

Modern IT infrastructures are a complex mix of platforms, hardware, and software, spanning legacy on-premises infrastructure and software and public and private cloud configurations that host containers and micro-services. While it's common for the data center team to have an inventory of hardware and software assets, that inventory is only a limited-use resource because it doesn't reveal how the assets connect to one another and support an application.

Application modeling provides instant visibility across the complete mix of environments, empowering IT to assess the impact of potential changes and check service continuity configurations and other functions to ensure optimal business support. That said, the current dynamic—and mixed—environment has made it impossible to continue the manual process of modeling assets and dependencies through spreadsheets and other static forms of record keeping.

Businesses that still rely on those outdated processes are falling behind and working inefficiently with an inaccurate model, which also hinders the ability to provide business context for security vulnerabilities.

Auto-discovery and application modeling

Today's advanced analytics tools ingest data from application modeling through automation, which enables emerging technologies such as AIOps and machine learning. This is integral to helping businesses evolve toward becoming an Autonomous Digital Enterprise—a future-state business framework that integrates automation across every facet of the business.

In dynamic environments, auto-discovery tools collect data on network infrastructure, servers, software, and cloud services and their relationships to build a robust, tiered application model that can be easily updated to reflect changes and ensure timeliness and accuracy. Tools that automatically discover and model dependencies between applications and the hardware and services they utilize are also better prepared to help drive the overall digital transformation of the business.

Auto-discovery is not enough

However, auto-discovery tools, used by themselves, do not solve all the problems application owners face when trying to generate comprehensive, accurate models. The modeling process's starting point can make a big difference in its accuracy. Most auto-discovery tools use a "top-down" approach. That means the person creating the model has to specify the "top" entry-point for the application—often a URL that leads to a load-balanced service or a web server—and the choice of what to scan is also driven top down. At each stage, the tool decides what to scan based upon the dependencies it detected at the previous stage.

Application owners must also consider where applications store data, which is akin to starting at the bottom. For off-the-shelf applications like Microsoft Exchange, the natural place to start is with that software, rather than the entry points used by clients or the databases storing the data. Exchange servers are in the "middle," with entry point servers and load balancers above and databases below. If modeling is limited to one area versus evaluating the entire infrastructure, databases used by additional application servers can be missed.

Start-anywhere application modeling

To get a complete picture of the entire environment, start-anywhere application modeling is an ideal solution. It's exactly what it sounds like—a way of modeling that discovers assets from the top down, bottom up, or middle out from any starting point. It's the only effective way to accurately model diverse and complex applications across physical and virtual infrastructures and deliver a better user experience to application owners by allowing them to start with what they know, rather than forcing them to work out what constitutes the "top."

BMC Helix Discovery uses start-anywhere application modeling and always looks everywhere, viewing systems and their dependencies from all directions. Start-anywhere modeling can start from multiple points simultaneously, which is the most efficient way to close the gap on incomplete modeling and ensure that all available information will be modeled—especially if portions of relationships are missing. A rigid top-down approach is limited by only detecting issues that are

visible from the top, and as soon as the tool meets something it can't discover, it stops. The start-anywhere approach pinpoints and fills in the gaps much faster and is always up-to-date, which mitigates many of the challenges of standard tools. Other benefits include:

- Accurate asset and relationship views from any point at any time
- Reduced downtime and outages
- Higher employee productivity
- Better cost optimization

How does it work?

Users employ a modeling editor to create the model, which they can annotate and trim for easier readability. For example, a user might turn off the feature that shows software components associated with software instances. BMC Helix Discovery does this for even the most complex hybrid environments, and if the modeled environment changes, the model changes automatically.

Start-anywhere application modeling is just one of the ways that BMC Helix Discovery creates a holistic view of your application dependencies. The software as a service (SaaS)-based, cloud-native discovery and dependency modeling system provides instant visibility into hardware, software, and service dependencies across multi-cloud environments, including mainframe, traditional, and hybrid infrastructures, container management, and cloud services. With rapid discovery, relationship modeling, correlation, and visualization of the entire hardware and software landscape, the solution improves ITSM operations to better support business goals, such as the evolution to an Autonomous Digital Enterprise.