Application Brief: Quality Assurance

MIMIC Simulation
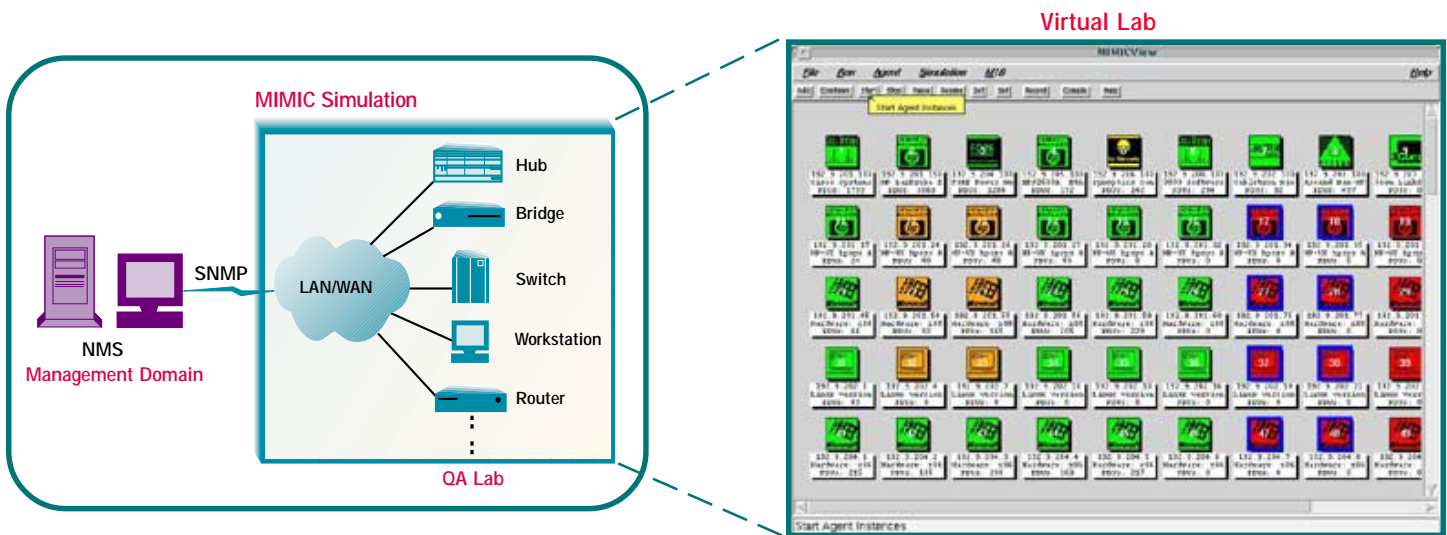
Virtual Lab

Software testing is a thankless job. It is always at the tail end of the development cycle, and the pressure to hurry and release the product is phenomenal. Of course, there are many types of testing all through the development cycle. Types of testing that require a lab with working networks include unit/module testing to spec, integration testing, acceptance testing, regression testing and documentation

MIMIC SNMP Agent Simulator

testing. And in larger organizations, each type of testing requires its own testing labs. The personnel that use these labs have the responsibility for assuring that software works in a variety of network environments, with multi-vendor hardware.

Testing is often looked down upon by "real engineers" who develop the product. Because of this, testing labs are sometimes not as well endowed with devices on which to test the network management applications. And because development comes before testing in each phase, development labs usually get first crack at any new equipment. Too often, testers are pitted against developers for

the limited resources for building lab networks. But let one software problem slip out and the testing department is squarely placed with the blame, no matter who made the decision to ship.

How can companies assure the quality of their network management software products without spending all their profits on third-party devices? By investing in MIMIC, an SNMP simulator that allows them to build virtual networks – even providing each tester with a virtual lab to work in. These 'private labs' allow testers to concentrate on predicting what problems are going to occur, without interference from others that would normally share a physical lab. With MIMIC in the testing lab, management can be assured that the turf wars are eliminated and the testers are productive. MIMIC can even be used to record actual network configurations and bring them right into the lab, as part of the test plan. MIMIC allows testers to perform complete testing in all types of scenarios, providing more thorough testing. MIMIC's scalable scenarios allow testing of even extreme scenarios that would be virtually impossible in a physical

lab. In addition, MIMIC makes regression tests a snap – MIMIC can record test scenarios, and then replay them. Scenarios can be run forward, backward, fast forward and fast backward at will – like a VCR! Imagine the time this would save in the testing procedure!

With MIMIC, testing proceeds faster, companies can have higher confidence in the level of software testing, and software products can be released to customers more quickly. And winning the time to market battle with the competition is more important than the internal developer vs. tester battle!

Gambit Communications, Inc.

Founded in 1995, Gambit Communications is a leader in network simulation tools that enhance the productivity of network management developers and enterprise users while lowering their costs.
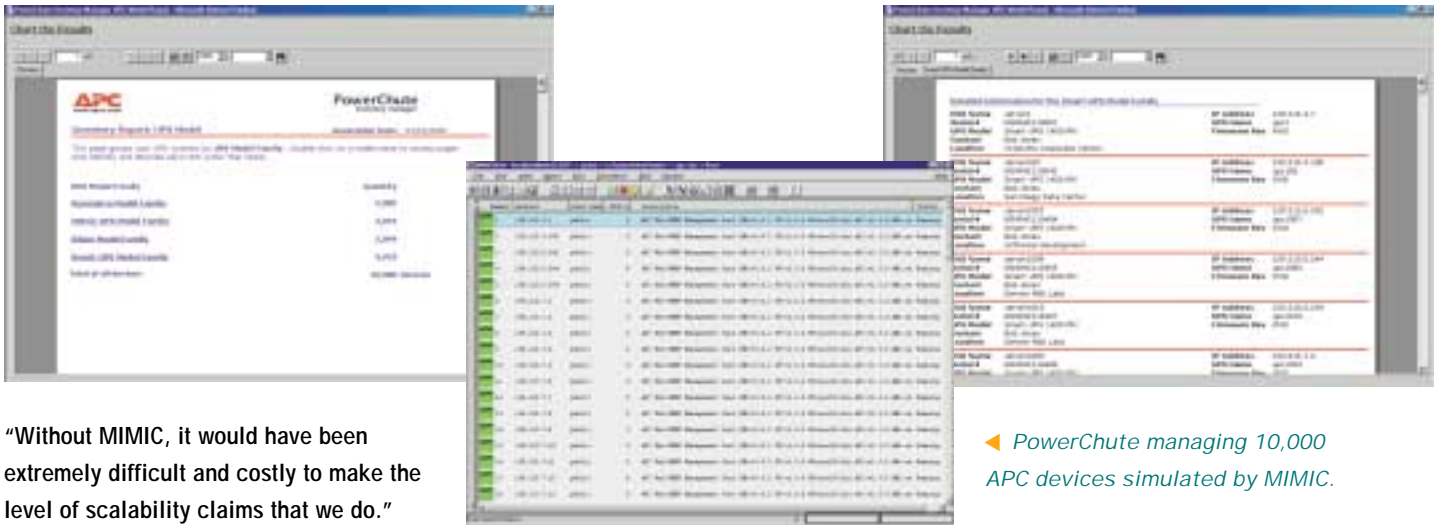
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Your Best Move to Effective Network Management

Customer Profile: APC

When APC needed assurance of software scalability, they turned to MIMIC …

> "Without MIMIC, it would have been extremely difficult and costly to make the level of scalability claims that we do."
> – C.J. Meiser, Senior Product Manager, APC

◄ *PowerChute managing 10,000 APC devices simulated by MIMIC.*

MIMIC Powers APC's Quest for Scalability

When American Power Conversion (APC) needed assurance of software scalability, they turned to Gambit's MIMIC SNMP Agent Simulator. APC, who develops the world's most advanced power management software for it's complete line of power protection equipment, was tasked by their customers to provide an application with inventory and status insight into enterprise-wide installations of APC's UPS systems. As the developers began working on this unique application, they realized that the testing required to validate the customers' scalability needs would be a challenge – a unique test bed for scalability would need to be built. In order to assure that the new PowerChute Inventory Manager could find the 1000s of APC devices typically installed across a customer's enterprise, engineers would need to spend massive amounts of time and capital to build a hardware lab just for testing the scalability of the new software. The undertaking was, frankly, cost prohibitive.

In searching for scalability testing alternatives, APC decided to use an SNMP Agent Simulator – a tool that could simulate their devices and allow the use of those virtual devices in virtual test beds. For numerous reasons, APC chose Gambit's MIMIC for the job.

"We looked at other simulators, but MIMIC was easier to use. It also supports Linux, which we use in our development environment. Basically, our biggest requirement was scalability, and MIMIC was the only product on the market that fit the bill," said Brad Hammond, Software Program Manager, APC.

APC's developers used MIMIC to "record" the device MIBs for the APC product set, including the APC SNMP Software Agent and the Web/SNMP Management Card – a card that makes managing APC UPSs a snap. The web card provides APC's customers the ability to manage, configure and control their power protection devices via SNMP, Telnet or even HTTP. MIMIC was then used to simulate the devices and Web Cards. Simulation scenarios were created with 1000's of devices – just like a customer's enterprise – and the claim of managing 10,000 devices was substantiated.

In the later development phases – integration, alpha test, and beta test – MIMIC was used by the development team (both by developers and QA engineers) to assure that the scalability of the new product held true through each phase. In many companies, scalability testing is often put off until the end of development cycles, if it is done at all. Many companies test scalability when their products are installed in a customer's network – not a particularly good time to uncover issues! With MIMIC, APC's engineers had the assurance early in the development cycle that their PowerChute Inventory Manager software would meet their customers' scalability requirements.

APC attributes huge cost savings to MIMIC. The entire cost of building a physical scalability lab was avoided – including the capital expense and administration costs. In addition, APC did not have to assign development resources to creating scalability tests. As a result, APC's developers were able to focus on the PowerChute Inventory Manager's functionality, and insure it worked to specification and was of the highest quality.