

iBASEt uses Mini Maxwell to identify and mitigate software performance issues

A manufacturing operations management and execution software company ensures their product will meet the needs of clients in a broad range of challenging network conditions.

“Our developers always work in a high performance LAN environment, so before release, we have a challenge insuring that our software delivers acceptable performance over the full range of customer environments including WAN, cloud, and mobile. We use Mini Maxwell to confirm that both our web browser and our Windows client user interface deliver a responsive user experience in the face of higher latency networks. We also use Mini Maxwell to confirm robustness in the face of network errors.”

“It is several orders of magnitude less expensive to find and fix issues in development compared to customer sites. When we prevent even one small issue from escape, it pays for Mini Maxwell many times over.”

-Frank Heinrich, iBASEt, Chief Technical Officer

iBASEt Company Profile

iBASEt is a leading provider of software solutions to complex, highly regulated industries, like Aerospace and Defense, Medical Devices, Nuclear, Industrial Equipment, Electronics and Shipbuilding. iBASEt's Solumina software streamlines and integrates Manufacturing Execution System and Operations Management (MES/MOM), Maintenance, Repair and Overhaul (MRO) and Enterprise Quality Management System (EQMS) for operations and Supplier Quality Management. Solumina is implemented by industry leaders, including BAE Systems, Airbus Space & Defense, General Dynamics, Lockheed Martin, NASA, Northrop Grumman, Textron and United Technologies.

Challenge:

iBASEt must ensure that its Solumina software delivers acceptable performance over high latency networks. Testing Solumina over a LAN inside a lab does not replicate the real world network conditions faced by companies with distributed workforces and multiple locations. iBASEt requires a testing solution to simulate use of Solumina in the field, as well as one that reduces test setup time.



Emulating real-world network conditions

iBASEt uses InterWorking Labs' Mini Maxwell to test its Solumina software. Using Mini Maxwell, a small, portable and inexpensive network emulator, iBASEt can simulate the degraded network conditions often found in real world networks. This includes packet loss, delay, duplication, jitter, and re-ordering.

Mini Maxwell allows iBASEt to test its software in a lab environment with a plug-n-play approach. Pre-configured tests configurations save hours of setup and re-configuration every test cycle. Since Mini Maxwell is a transparent "bump on the wire", there is no cascading impact on the configuration of other systems in the environment. Test engineers do not need to involve networking experts for every test situation. This saves time and money within iBASEt's quality assurance process.

"Previously, iBASEt has conducted network impairment testing using BSD Dummynet and Linux NistNet based test environments. Both of these approaches operate as routers and require us to reconfigure our test systems, network, and servers to route traffic through the test impairment subnets." "With Mini Maxwell, I can hand any of our testers a small hardware appliance to insert between the tester's workstation and the network. The tester then downloads a pre-established test configuration. The tester is up and running the same tests, but now in an impaired test environment. Mini Maxwell's web-based Graphical User Interface is far easier to understand and use than the arcane command line configurations in our previous environments. With Mini Maxwell, we spend more time testing and less time managing our test tools and equipment."

-Frank Heinrich, iBASEt, Chief Technical Officer

Mini Maxwell has been valuable in helping iBASEt to:

- ✓ understand the latency impact on the end user experience.
- ✓ identify typical latency thresholds that raise concern.
- ✓ approximate in our lab, the latency profile of actual customer environments.
- ✓ evaluate the impact/benefit of use of VDI technologies and potentially of WAN improvements.
- ✓ isolate network-level impacts from inherent application latencies for specific use cases.
- ✓ evaluate the latency impact on our browser-delivered functionality subset.



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