Dude! Where’s my data? - Cracking Open the Hermetically Sealed Tester

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Panel Synopsis
ATE customers realize that testers that keep test data “hermetically sealed” in production mode are a barrier to profitability. This data is needed for Process/Yield Improvement, Adaptive Control, Product Characterization, Reliability improvement / burn-in elimination, Test Floor SPC, Calibration, and Test Repeatability etc. Subcontractor & Foundry manufacturing increases the complexity of getting the data. This panel looks into why we’re here and where to go.

The views on this topic appear to fall into four camps:

Camp 1: “The Traditionalist Camp,” whose worldview can be described as: “Things are fine as they are, the utility of test data in production is overrated, the value of a tester is in its capability to test, not in its ability to generate data” In other words the job of the ATE in production is to decide on the disposition of the die and other activities can depend engineering work, data logs and characterization vehicles.

Camp 2: “The Mainframe Camp,” whose worldview can be described as: “The customers need to agree as a community on a unified set of requirements and an individual ATE vendor will supply the solution.” In other words the ATE vendor owns everything - the measurement, data collection, analysis, test control & binning. But, currently, customers have not agreed on requirements and are complaining that the vendors aren’t providing enough.

Camp 3: “The WinTel Camp,” whose worldview is that: “The vendors need to agree as a community on a unified set of requirements and provide the solution as a community.” i.e. Various vendors divide the pie, agree on connectivity between them and together produce the complete solution in a unified standard. But, currently, vendors are still fighting to own the whole pie by keeping the system hermetically sealed. Some desktop vendors are attempting to break through and become the next Apple™ while other software providers are attempting to be the MS Windows™ of the test world and there is still no complete solution that can be pieced together from these providers.

Camp 4: “The Red Hat Camp,” whose worldview states: “Give us the data, the whole data and nothing but the data.” In other words the ATE vendors should focus on providing the measurements we ask for and provide a standard methodology for test programs to interact with the ATE and for the data to be collected. All data collection, analysis, decision making & binning will be done offline.

In the history of the computing industry the mainframes were chipped at first by Apple™, which controlled the hardware and software, then IBM opened the standard, split the hardware from the software and Microsoft™ capitalized on the opportunity, the pie grew and Microsoft™ drove further standard requirements, then came the Linux crowd, that did not want just the template provided by Microsoft, saw it as a barrier to productivity and wanted more flexibility and portability.

The question for this panel is - is the ATE industry at a cusp where it needs to change dramatically in order to provide data to the users? And if so, how is the hermetic seal going to be broken on test data collection? Which camp or combination of camps will prevail? As a result, what will the ATE world look like?