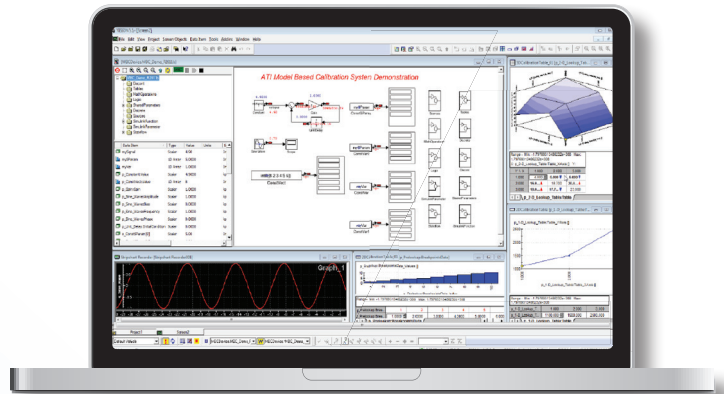
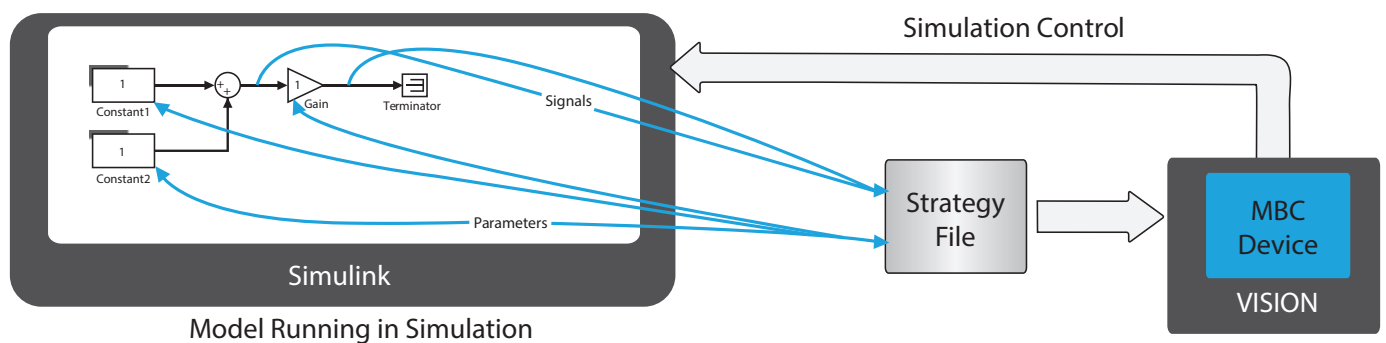


ATI Rapid Prototyping Model Based Calibration (VISION MBC)

The VISION Model Based Calibration toolkit (VISION MBC) is the implementation of a Model-in-the-loop (MIL) system. The MathWorks' tools, MATLAB® and Simulink®, provide the modeling environment and VISION MBC provides the 'in-the-loop' capability, integrating VISION with the model as it runs natively within the Simulink® environment.



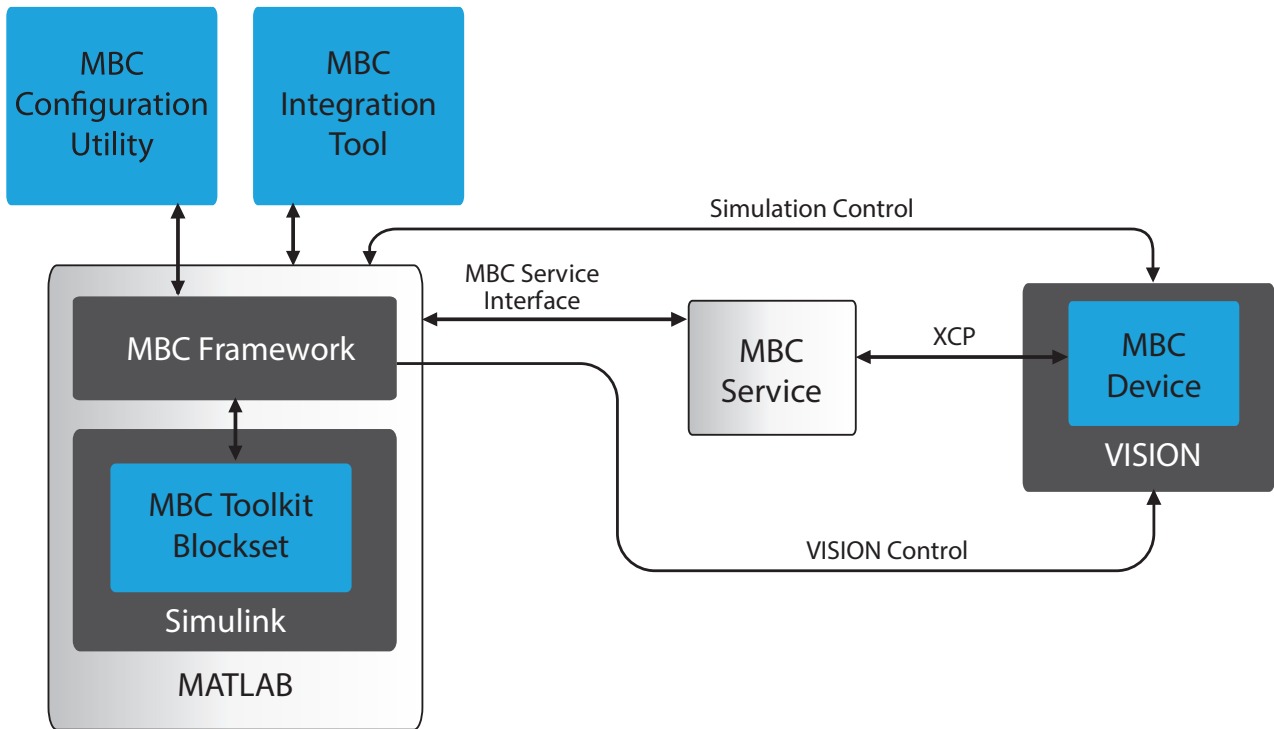
The following is a simple example of an MBC System which allows VISION to communicate with a model running in Simulink for the purpose of data acquisition and calibration.



The MBC System interrogates the model to discover the set of supported signals and parameters within the model. These signals and parameters are then incorporated into a VISION Strategy file (*.vst) which in turn is associated with the MBC Device within VISION. Once so incorporated, the signals and parameters discovered within the model are exposed to VISION as standard data items that may be used in data lists, recorders, table editors, etc. The MBC device in VISION must also control (load, start pause, step, and stop) the model as it runs in simulation (which may also be done directly in Simulink).

A high level overview of the MBC System is shown below. It depicts four keys aspects of the MBC System:

- **Integration**
- **Configuration**
- **Communication**
- **Coordination**



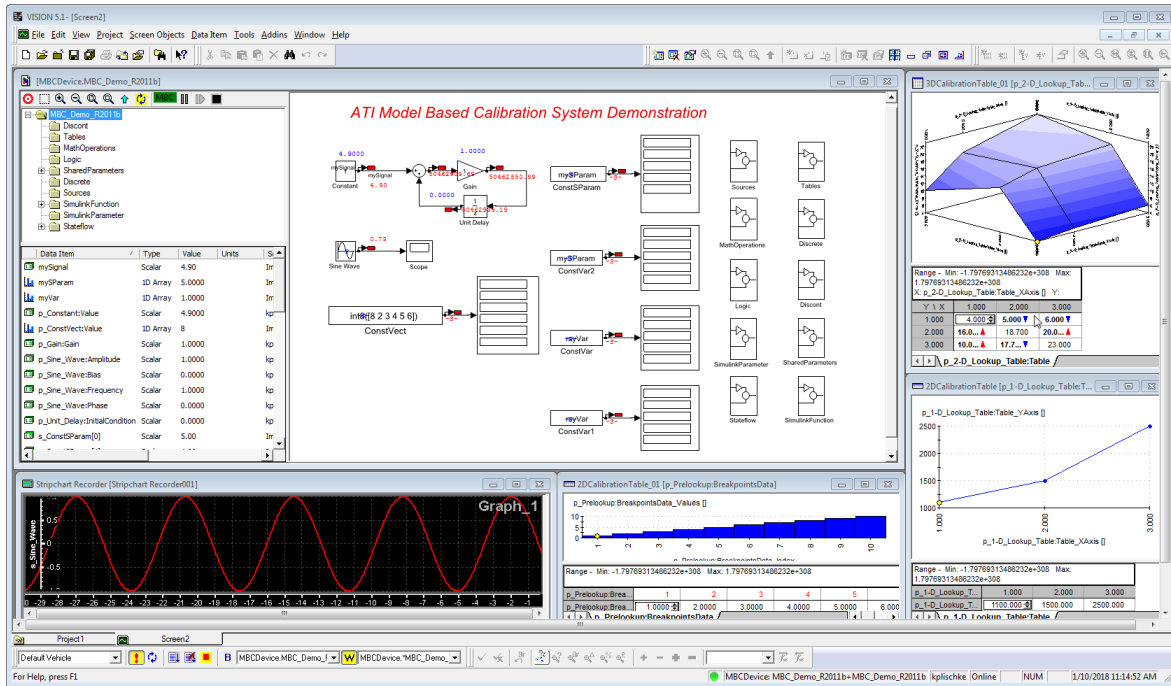
Using VISION MBC it is possible to conduct data acquisition and control against a model as if it were a physical device.

Device	Status	Data R...	Description
Computer	Offline		This computer running the ATI VISION software
TCP/IP	Offline		TCP/IP Device
XCPonIP	Offline		XCP on IP based device
MBCDevice	Offline		Model Based Calibration Device
MBC_Demo	Simulation Stopped		C:\VISION Projects\MBC Demo Model\MBC_Demo.mdl
[Base Calibration]			C:\VISION Projects\MBC Demo Model\MBC_Demo.mdl
MBC_Demo_01	Active		C:\VISION Projects\MBC Demo Model\MBC_Demo_01.cal

With VISION MBC the following features are available:

- Integrates VISION with existing models by linking VISION and the model running within the Simulink® environment on the VISION computer.
- Once the model is integrated, VISION will use the same interface used by all the other devices within VISION. The distinction between this virtual device and all other physical devices is transparent to VISION.
- Powerful display of signals and calibration parameters, including configurable strip charts, recorders, lookups, dials and gauges are available.
- Viewing of the model in VISION along with dynamic data overlays using the optional VISION Browser for Simulink® Models Toolkit.

VISION • No-Hooks • OnTarget • MBC



Part Number	Name
MBC Toolkits	
152-0129	VISION Model Based Calibration Toolkit (requires 152-0007, 152-0008, 152-0010, 152-0020, 152-0021, 152-0026)
Optional Toolkits	
152-0100	VISION Browser for Simulink® Models Toolkit