THE EVOLUTION OF BETA CAE SYSTEMS SUITE SCRIPTING CAPABILITIES INTO A FULL CAE DEVELOPMENT PLATFORM

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ABSTRACT –
Computer Aided Engineering is a highly technical field that demands continuous innovations and breakthroughs. In many cases, in order for innovations to take place, there is a need to jump ahead of the functionality that is currently available. The CAE tools need to provide advanced open programming capabilities were specialists can provide rapid solutions. These engineering specialists should not need to reinvent the wheel, instead APIs (Application Programming Interface) based on the latest IT industry standards should be available to them.

The APIs of BETA CAE Systems suite of products provide the user/programmer with a vast amount of capabilities. Great access to the core functionality and full access to the interface APIs. A greater access to the core functionality will be available in the near future enhancing the programming option for the user. In addition using Python as a programming language the user has a wide availability of functionality from Python's standard library and 3rd party libraries such as NumPy, Scipy etc.

As we move forward, the scripting capabilities will become a programming interface. An ecosystem will be provided such that developers will be able to create tools inside ANSA or µETA. They will be able to control the lifecycle of their tool. Hooks will exist for key application actions, and user intervention will be feasible for both the core data and the User Interface. The goal is to make the software a CAE Development Kit, that makes it possible to create your own tools and continue innovating. In addition a distribution and a licensing systems will be provided to make the Intellectual Property handling easy and secure.

Giving users and third party developer access to a CAE development platform unleashes unlimited capabilities. The user/programmer being the technical specialist can develop a tool that suits the specific needs of his/her organization and safe guard the organization's intellectual property. In addition third party companies with technical domain expertise can develop solutions on the BETA CAE Systems Platform and license them to end users.