

Future Internet – based on AI *(Artificial Intelligence)*

Machine Learning for Proactive Scalability and Management for Hybrid Clouds

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We present Inter-ACM Framework (I-ACMF), a novel framework for supporting the management and optimization of application subject to software anomalies and deployed on large scale cloud architectures, composed of different geographically distributed cloud regions.

I-ACMF uses machine learning models for predicting failures caused by accumulation of anomalies.

I-ACMF introduces a novel workload balancing approach and a proactive system scale up/scale down technique.

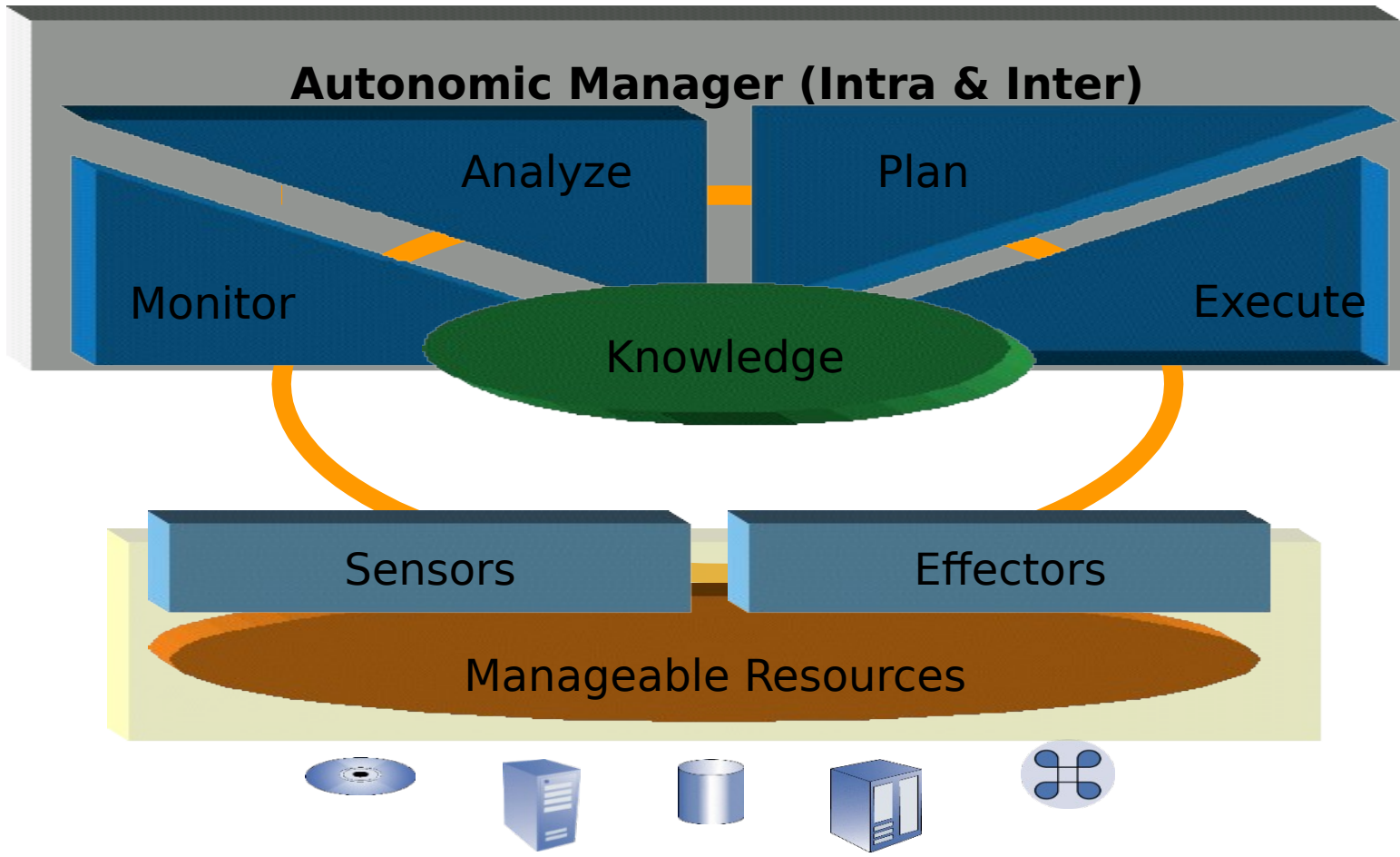


Fig. 1

In this presentation, we demonstrate the implementation of Virtualization and Machine Learning Frameworks for enhancing the availability and performance of web based applications. We automatically generated *Machine Learning (ML) models*, based on monitoring a set of system features, during the off-line training phase. The implemented *ML framework predicts the time to crash of applications*.

Intra ACM controllers are interconnected over a distributed/geographical clouds. In this way, multiple cloud regions can *proactively to scale(up/down)* to increase the *availability of the application*, and to *ensures the response time* seen by the users of the application.

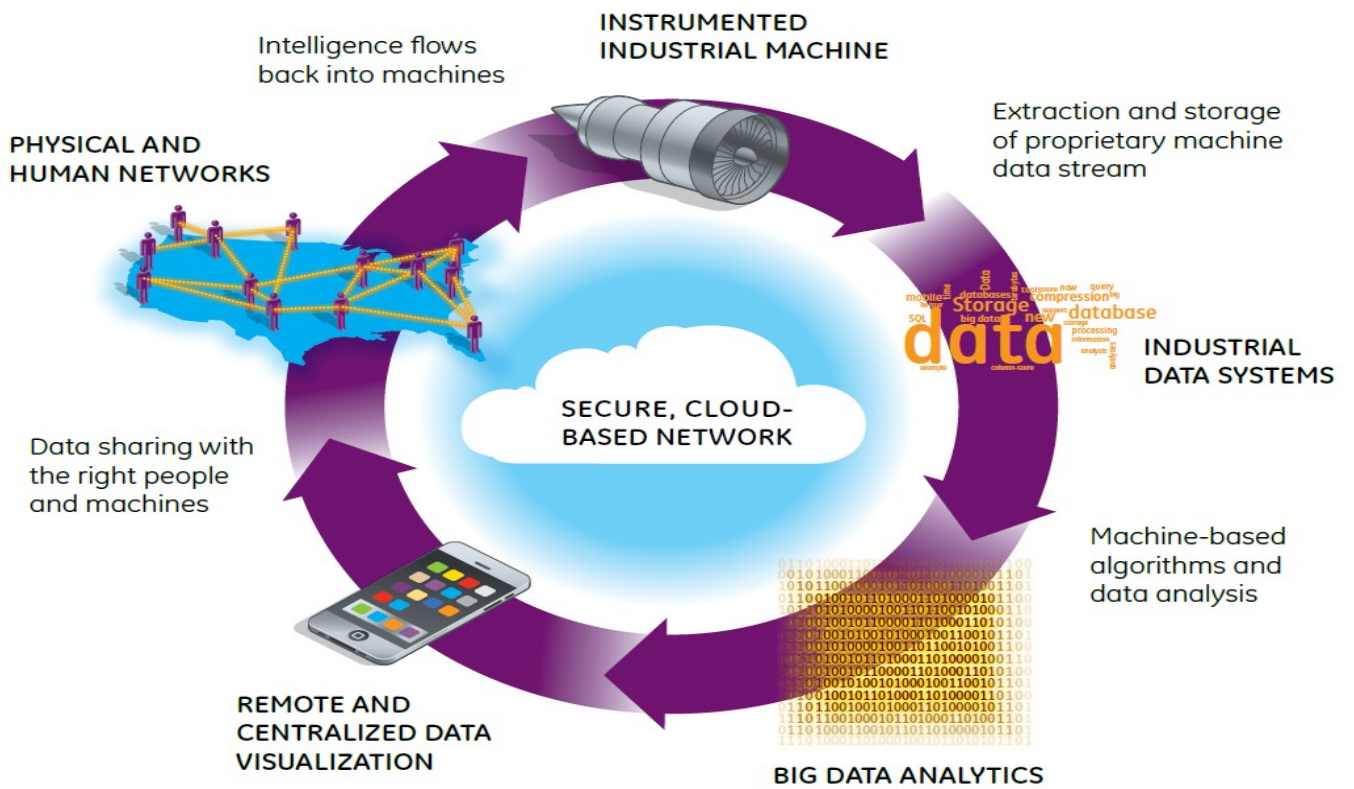


Fig.2

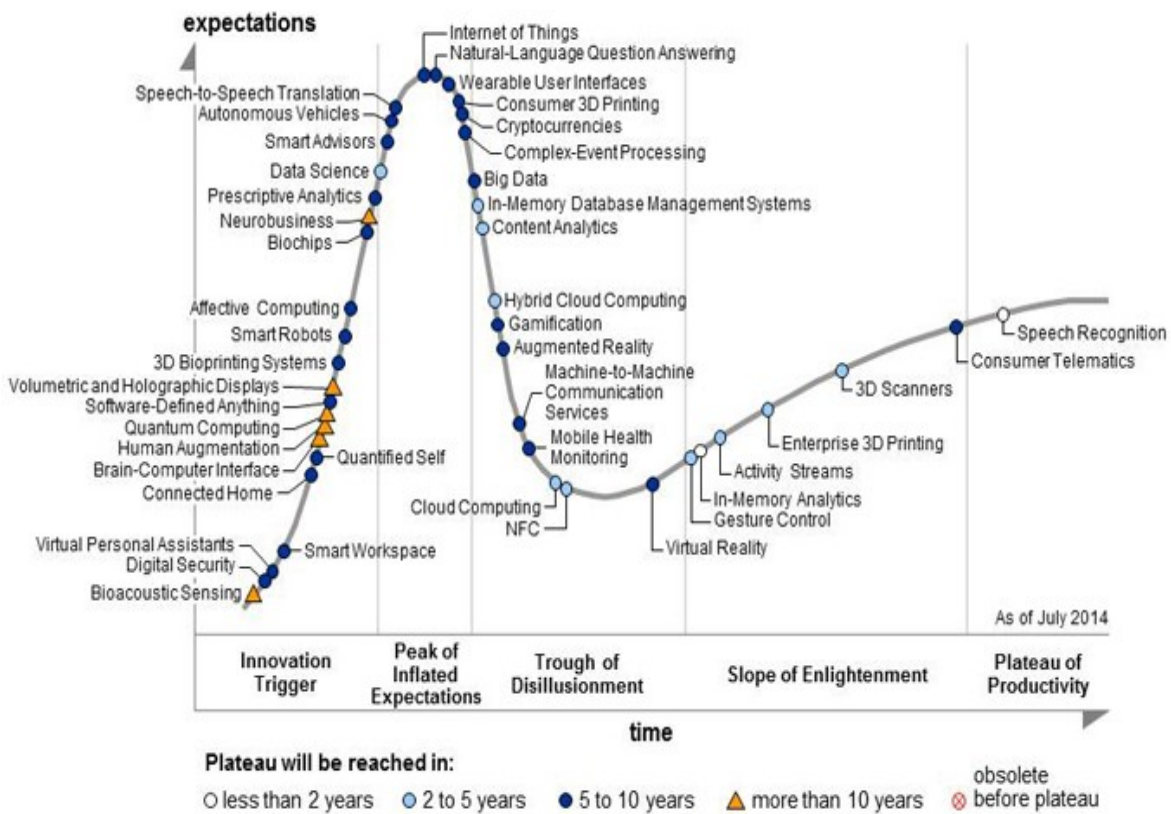


Fig.3