The future is bright with clouds

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My Position

With the rapid development of cloud computing, the future of Software Cybernetics is bright.

– What is cloud computing?
– What role can software cybernetics play?
Cloud Computing

- Cloud computing paradigm is based on an architecture that consists of three sub-models:
  - **Business model**
    - Pay-per-use
  - **Management model**
    - A large amount of computational resource is managed by cloud owner for balance between performance and efficiency
  - **Technology model**
    - A stack of highly complicated computing technology enables elastic scale of computing with rapid development and rapid deployment
A Model of Cloud Computing

Automatic, Autonomic, Self-adaptive, Optimization w.r.t. SLA

Automatic and continuous integration and testing, Self-configuration and composition, Self adaptation, etc.
Cloud Software Architecture

Building the software for a new tenant is by integration and composition of existing services.

Evolution of a service may affect many tenants.
Challenges to software engineering

• Existing theories, methods, techniques, and tools are for **human** to perform development activities

• The ideal solution for developing and maintaining cloud systems require **automation**:
  - New measurements and metrics
  - New processes
  - New control mechanism/process, etc.

These are what cybernetics are all about!