Question:
Will autonomicity reduce management complexity ?

I claim NO

Major Question:
Will autonomicity reduce management complexity ?

Spirakis: be reduced or be increased?

Schmidt: Autonomicity will help manage complexity economically

Lewis: Basically yes

Pfeifer: management complexity reduces
by moving from power tubes and transistors to IC and VLSI, …
I.E. through integration

IBM's autonomic computing rational: Spread the cost of management to several entities.
(this does not imply that the overall complexity is reduced)

Autonomicity as a mechanism to reduce Management complexity: A MYTH !

- We disintegrate a system, increase the interfaces we need to manage, add anarchy-inducing autonomicity and then we try to manage this monster.
- The system is more complex to manage.
- Autonomicity INCREASES management complexity.

- Only benefit may be that this much larger system complexity is taken care of by multiple entities, sharing its cost.

Autonomicity vs automation:

- Automation reduces management complexity, increases performance, capacity, efficiency.
- Autonomicity –as a disintegration mechanism – increases management complexity.

Autonomicity is there !!!

We do not invent it to “reduce” management complexity

The network naturally “disintegrates”
as resources are increasingly
owned by autonomic entities/contributors

TWO MAJOR CHALLENGES

(1) Managing behavior

Behavior is the single most defining
characteristic of an autonomic element
(own laws / or lack of laws / anarchy)

TWO MAJOR CHALLENGES

(2) Managing the interfaces / interactions

Science of interfaces

Can borrow from ecology

- individualism (organisms),
- Behaviors (rational/irrational/changing/unpredictable/random/…)
- interactions/interfaces,
- equilibrium (slow changing),
- evolution.

Complexity is managed without central authorities and global-wide rules