

Autonomic Management – Should we allow computers to take control?



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Autonomic Management

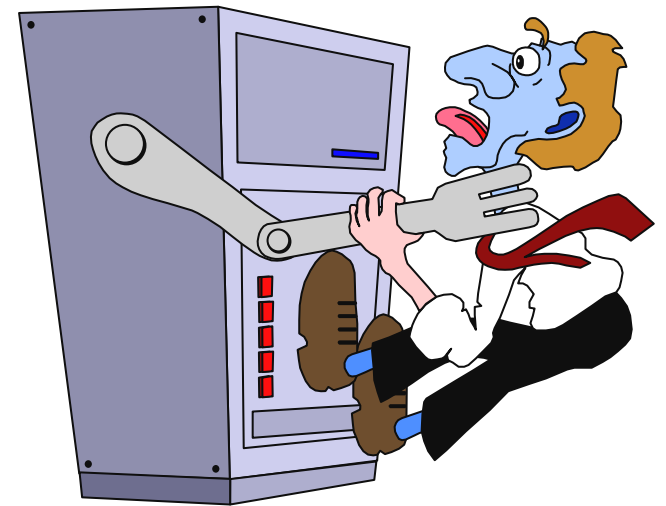
- Self configuring
- Self optimising
- Self healing
- Self protection
- Self XXXXing
- Is this really something new?



Most of the literature describes
automated management rather than
self management!

Should computers take control?

- Some people think control strategy can be learnt
- Can you really trust the computer to learn good behaviour?
- Many management strategies are too complex to be learnt
- Humans should always take critical decisions

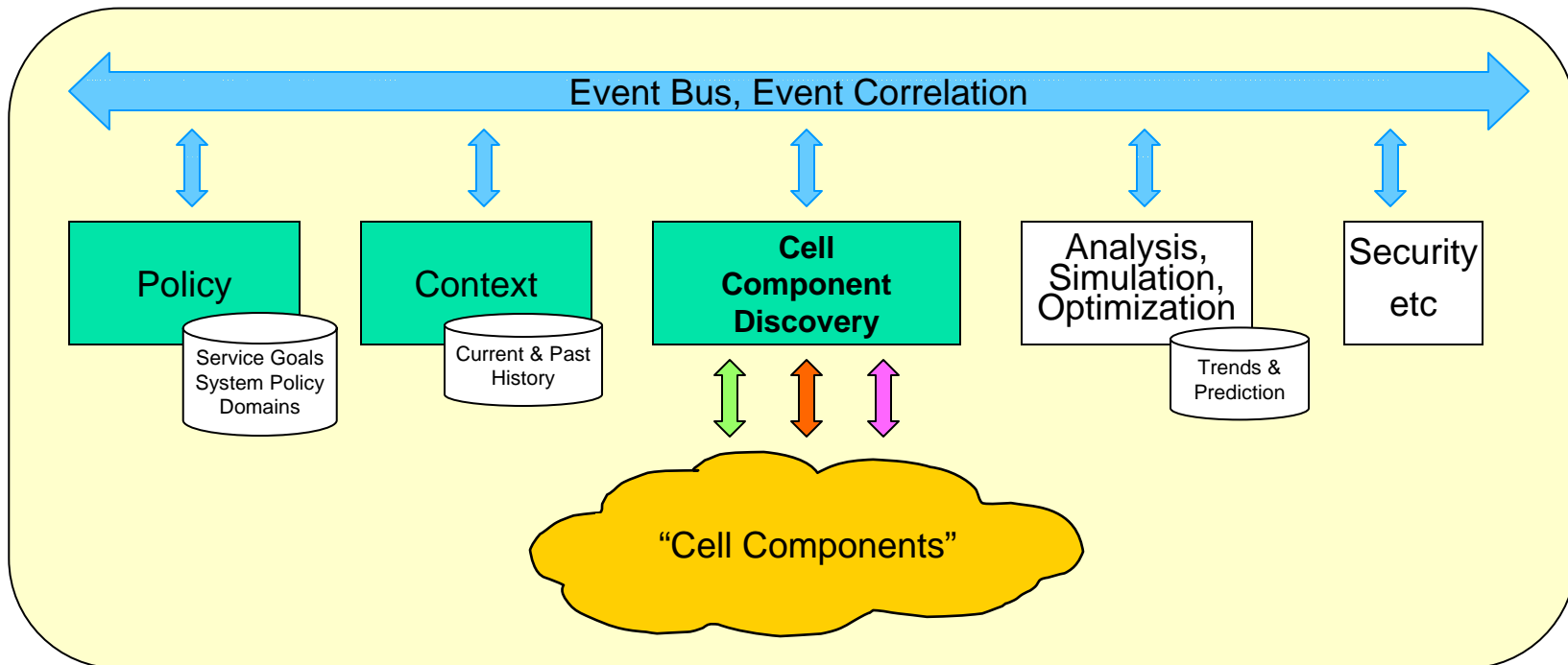




The Management Problem

- Huge, complex systems
 - Billions of processors
 - Multiple organisations
 - Managing physical world, controlling sensors, actuators
 - Humans will be in the way
- Hacker and virus paradise
- Complexity of s/w installation on a workstation or server
 - how do you cope with billions?
- Cater for huge systems
 - + scale down to body area networks
- Specify management strategy in the form of policy

Self-Managed Cell (SMC)



Example: Policies to Protect PDA

on 3* fingerprintfail ->

pda/policies/bodymonitor.disable ->

pda/policies/selfprotect.enable ->

timerEvents.trigger (shutdown, currentTime + 60)



pda/policies/selfprotect

every minutes (5) ->

sendSMS (07957341, "Stolen PDA", "ownerID", currentLocation)

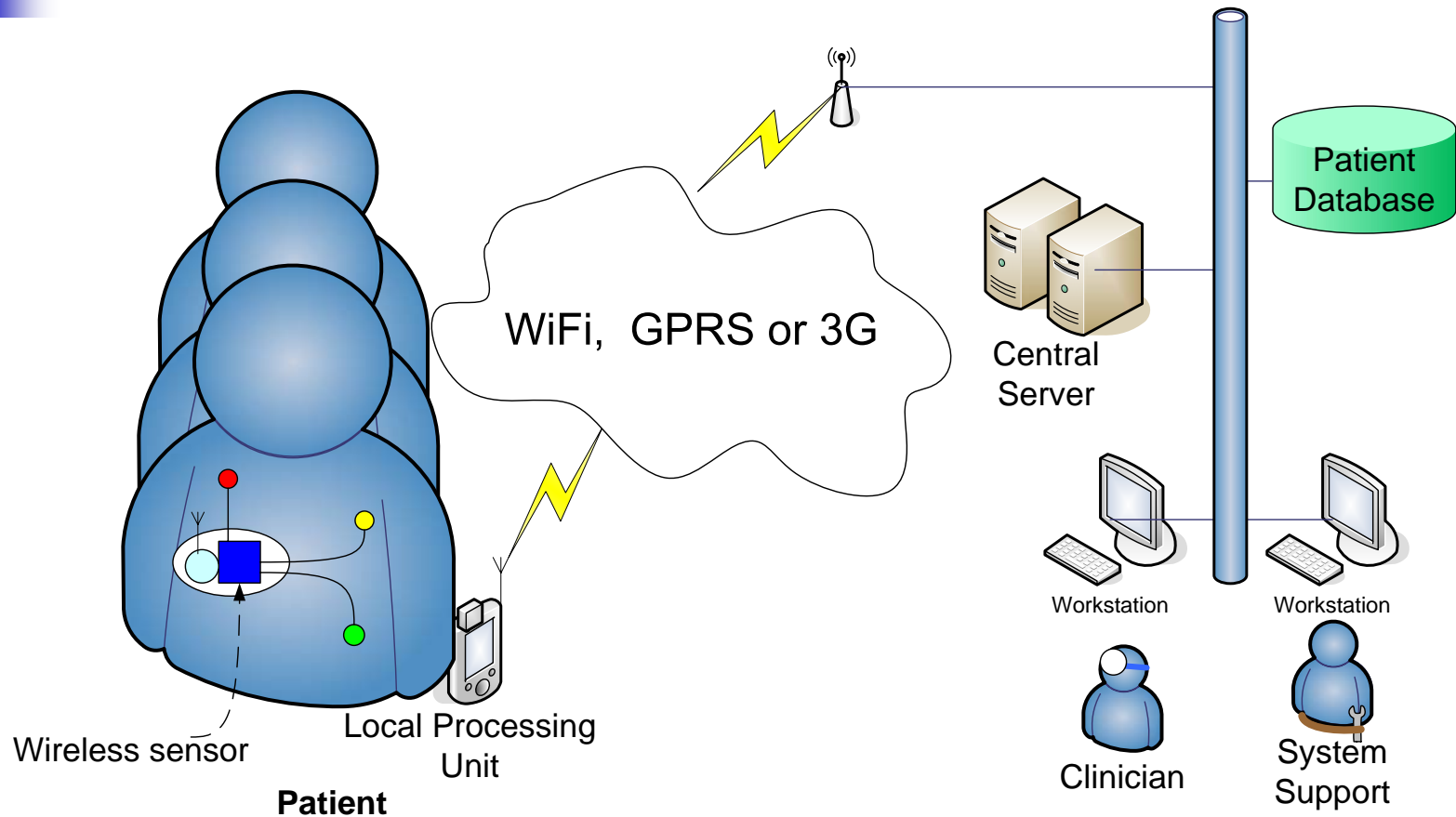
on shutdown ->

pda.locked ->

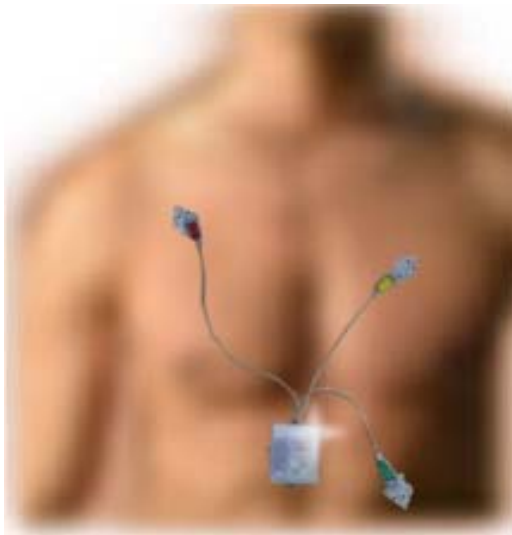
pda.switchoff

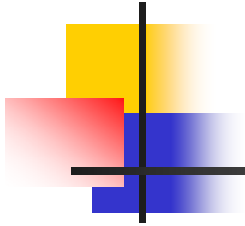
Assume this prevents pda from being rebooted or reset without an owner card.

Pervasive Healthcare



Prototypes





Conclusion

- Self management is essential for future pervasive computing
- Policy based management strategy specified by humans
- Self-learning management strategy is a long way off
- Concepts are not mature enough for standards