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Challenges for Humans and their Inter-networked *Toys*

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The Driving Force: Miniaturization



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- Miniaturization of computer systems is driving the penetration of intelligent appliances in every human activity
 - Server room -> office -> home -> lap -> pocket -> body
- Two interesting dimensions:
 - Increasing percentage of ordinary people use “*computers*” in their every day activities
 - “*Computers*” will greatly outnumber the number of people on earth
- An increasing number of non-specialists will be called to handle a very large number of “*computers*”

The Result: Smart Appliances



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- Smart appliances have evolved into complex devices which store personal and professional confidential information:
 - Easy to lose or steal
 - Loss of privacy
 - Stalking
- We should think of smart appliances as terminal devices to various Internet transactions
 - With all the associated risks of attacks that have been successfully carried out in past environments
 - But new attacks as well

The Threat: New Environment to Attack Humans and their Devices



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- New landscape opens new possibilities for attackers
 - Target “users on the go”
- Attacks can be more successful
 - Users constantly carry their devices
 - Environments differ from the familiar desktop
 - Users have a different mindset
- We are entering/have entered the “*continuously digital*” world
 - We must reconsider assumptions
 - Build systems that are resilient to these types of attacks