

Beyond the super-rich and the super-geeks: Smart homes for the rest of us

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HomeNets 2010

Smart homes

Capability to automate and control multiple, disparate systems within the home [ABI Research]

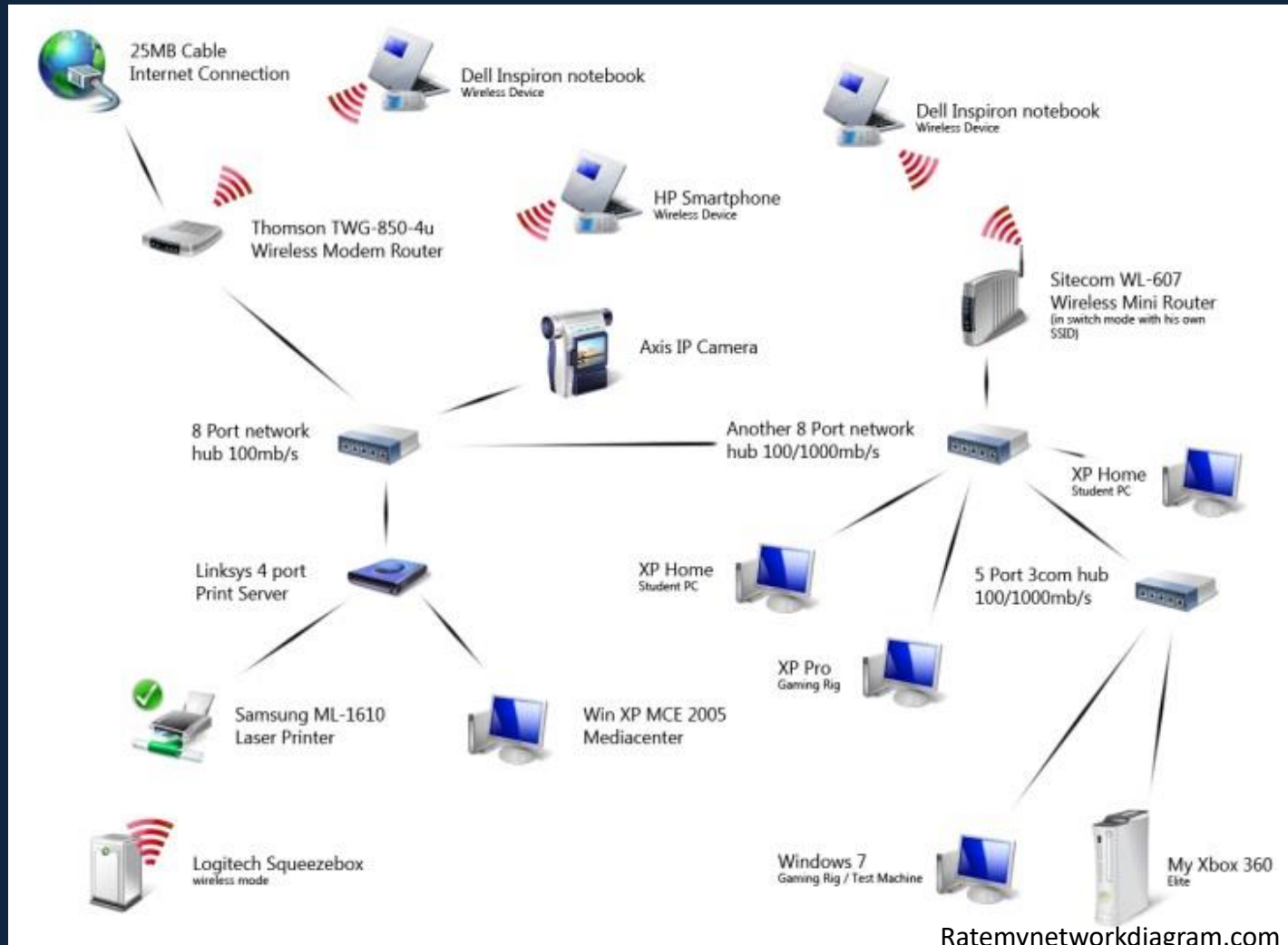
Today, only the super rich and super geeks have it

Why don't you have it?



You have the basic ingredients
But composition is difficult

An example home network



Why is device composition in the home hard?

Homes have users, not administrators

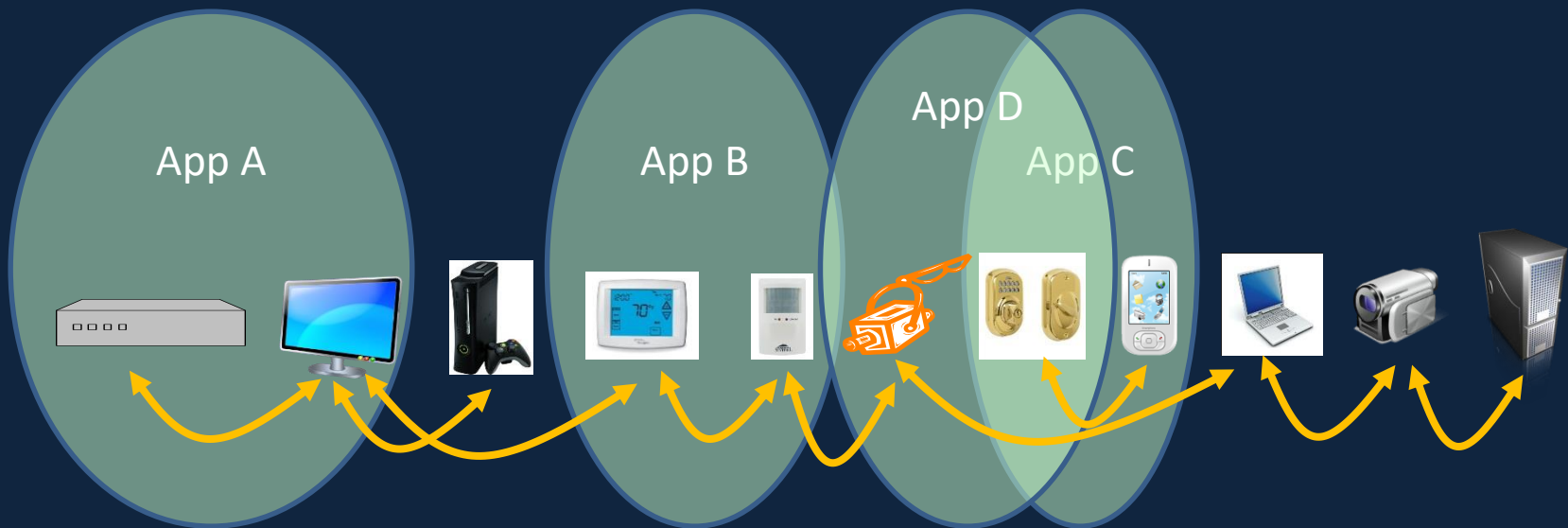
- Extreme heterogeneity
- Low expertise and willingness to manage
- Privacy

Rich set of devices

Technical issues mix with human and economic ones

Experimental difficulties

Interoperability is not sufficient

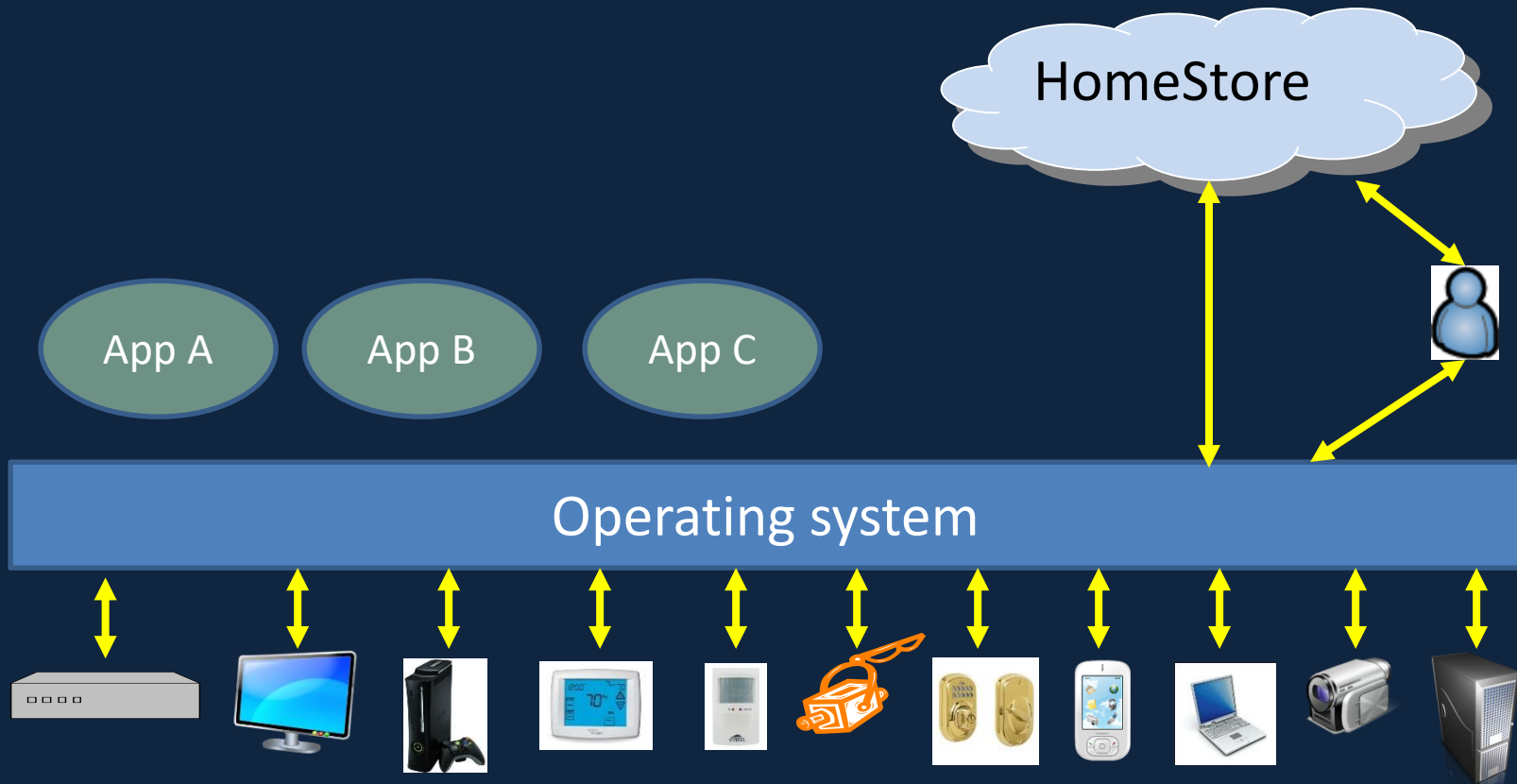


Monolithic systems are hard to extend

Apps A, B, C,



An alternative approach: A home-wide operating system



“The home needs an operating system (and an app store)”
Dixon, Mahajan, Agarwal, Brush, Lee, Saroiu, Bahl, *HotNets 2010*

Summary

By simplifying device composition, we can bring smart homes to the mainstream

Current approaches fall short

- Interoperability alone is insufficient
- Monolithic systems are hard to extend and customize

A promising alternative: A home-wide OS