

# The Network is the Service

Ivan Handler

Illinois Department of  
Healthcare and Family Services

[ivan.handler@illinois.gov](mailto:ivan.handler@illinois.gov)

# The 3 Questions

- Where are we?
- Where do we want to be?
- How do we get there?

# Role of IT

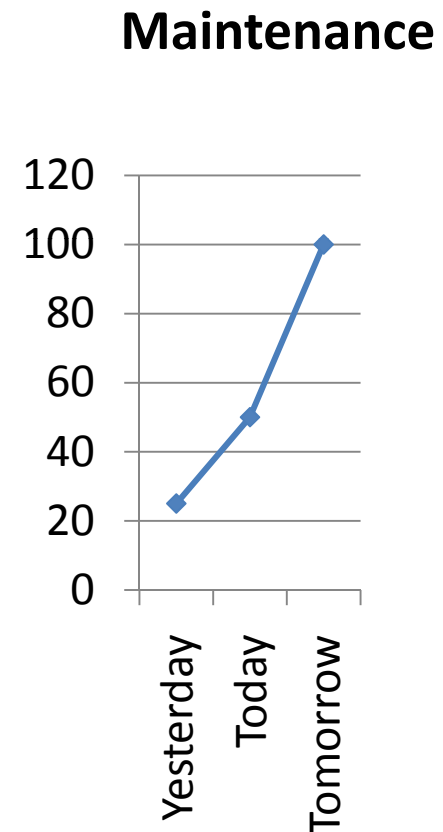
- Connect policies to technology

# What we think that means

- We need to own
  - Back room hardware
  - Software
  - Development platforms
- We need to employ programmers
- We need to hire system integrators
- We need the latest {\*}
- We need enterprise governance

# Furthermore...

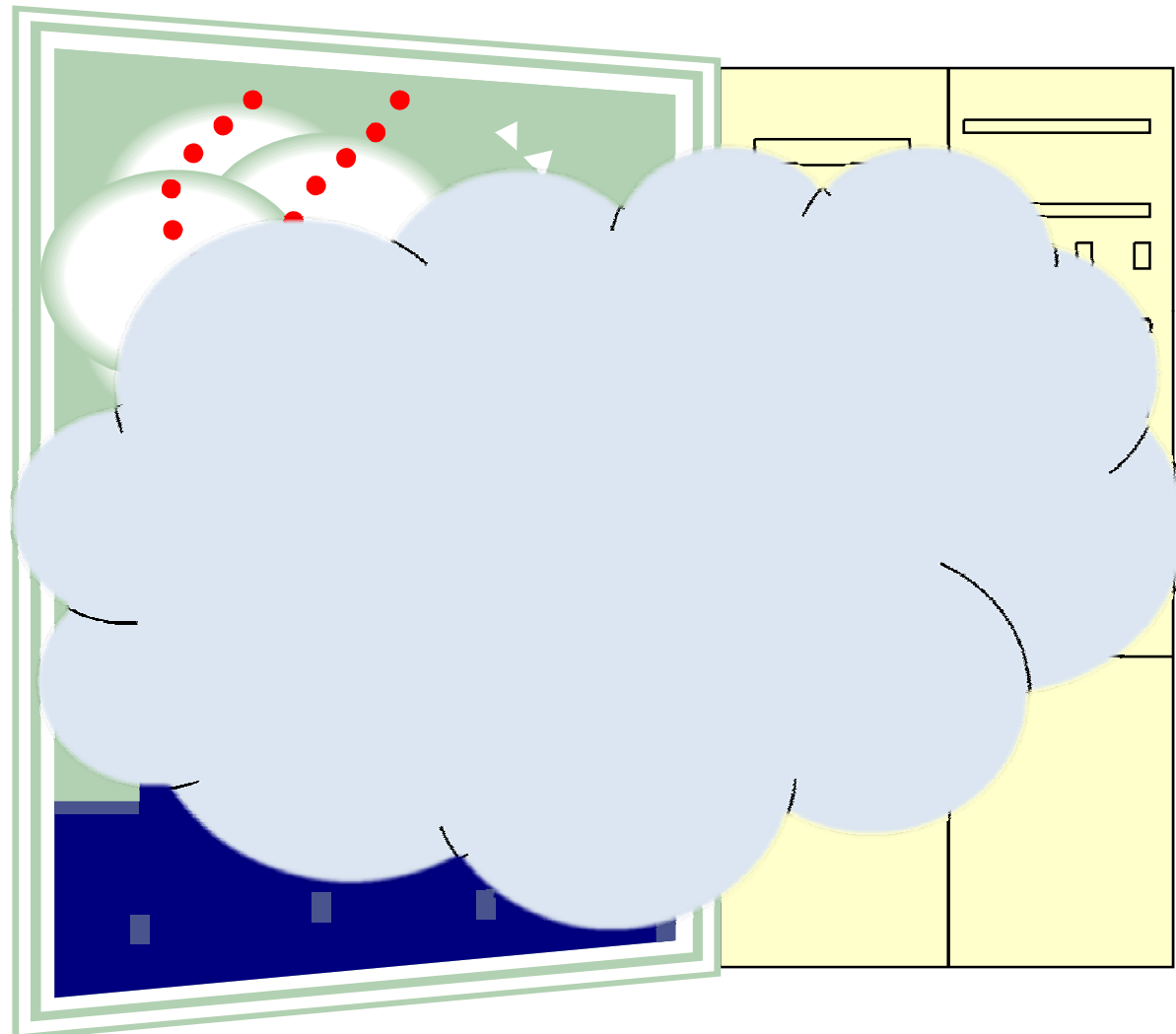
- Everything needs to be customized
- We need to pay extra for maintenance
  - 20%  $\pm$  to the vendor
  - ?? For programming resources
  - ?? For developer training
- Open change orders is a non-decreasing function over time



# How about this

- IT connects requirements to technology
- Configuration is preferable to customization
- Technology is a problem for vendors
- Maintenance costs should go down over time
- Cover more requirements with less cost
- Programming is not a state IT skill

# Utility Computing



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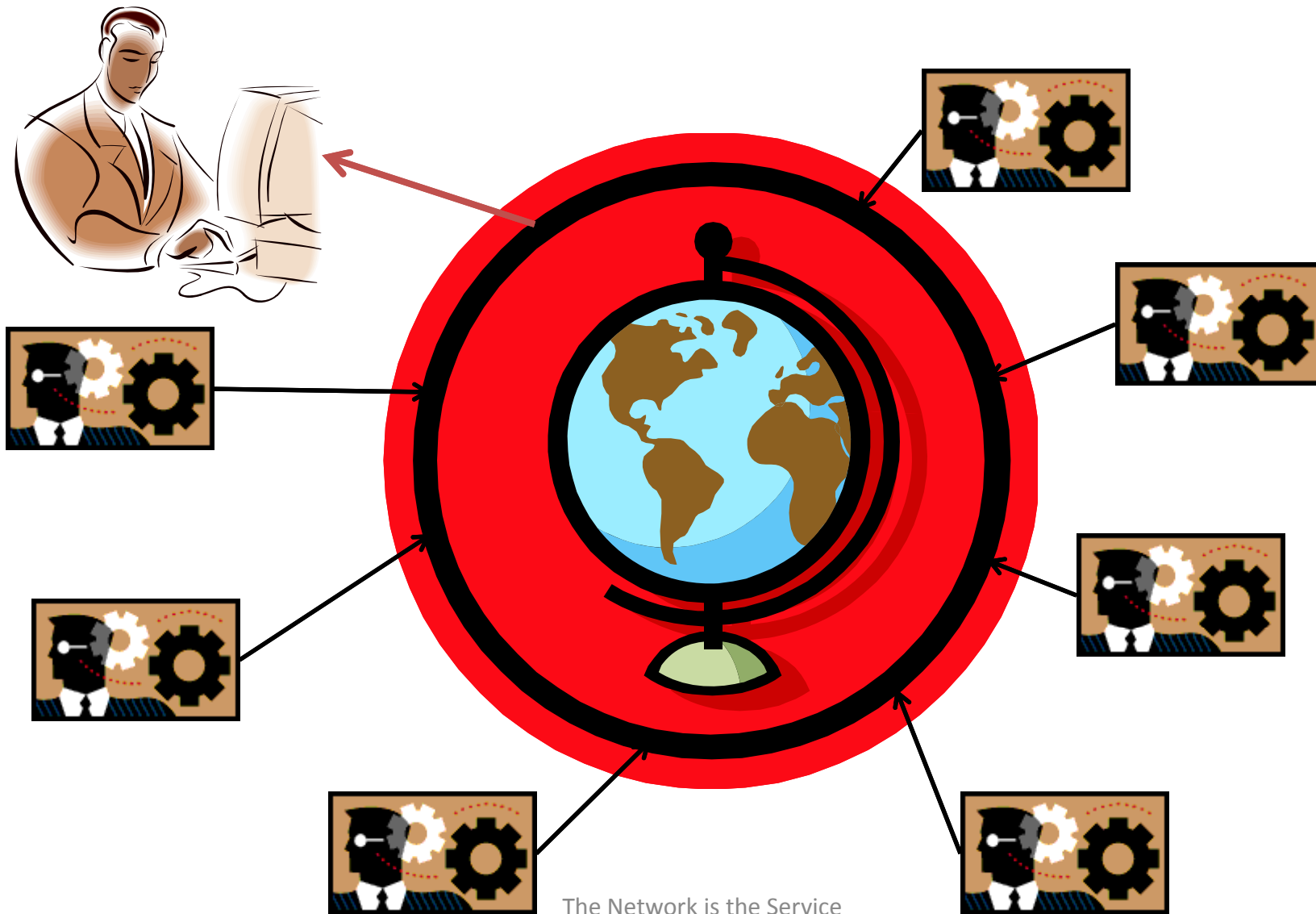
# Whaaaaat??

- Large data centers (Amazon S3, Google, ...)
- Vendors create web-based applications
- Applications are web configurable
- Applications are services that are leased
- National standards like MITA are governance
- SLAs not warranties

# Old vs. New

- Old
  - Large installation costs
  - Customization mostly programming
  - Large ongoing costs
  - Vendor burden is also large
- New
  - One instance of application
  - Configured not customized
  - No downstroke, constant ongoing costs

# Global plug'n play



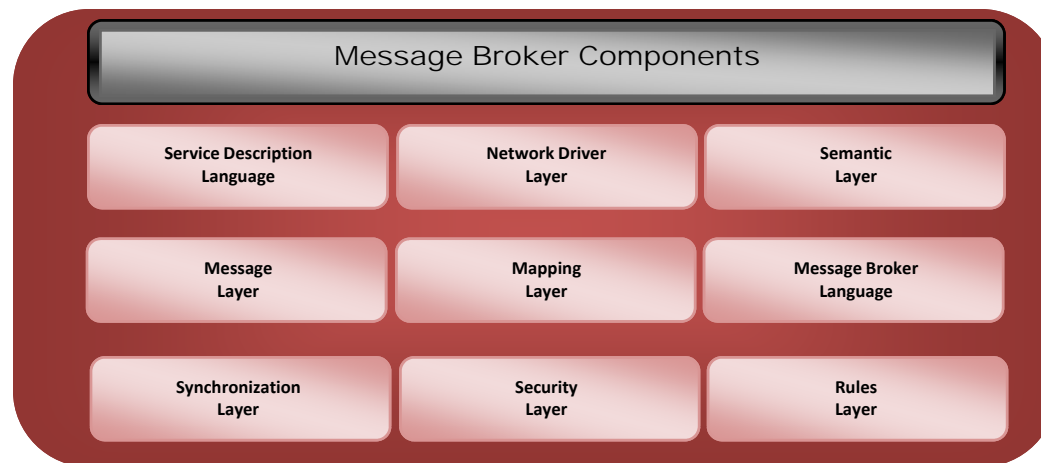
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# Service Oriented Networks

- Applications are aggregates of services
- Services fulfill a specific set of requirements
- Services interoperate
- Network “plug and play”
- Administrative functions through control panel interfaces

# Message Broker Architecture

- Services interoperate via messages
- Message exchange via state based protocols
- Semantics are internal to a service
- MBA supports message infrastructure



# MBA supports message infrastructure

- Like a network based ESB
- MBA standard supported by vendors
  - i.e. DNS
- Protocol defs are synchronized over the net
- MBAs are fault tolerant

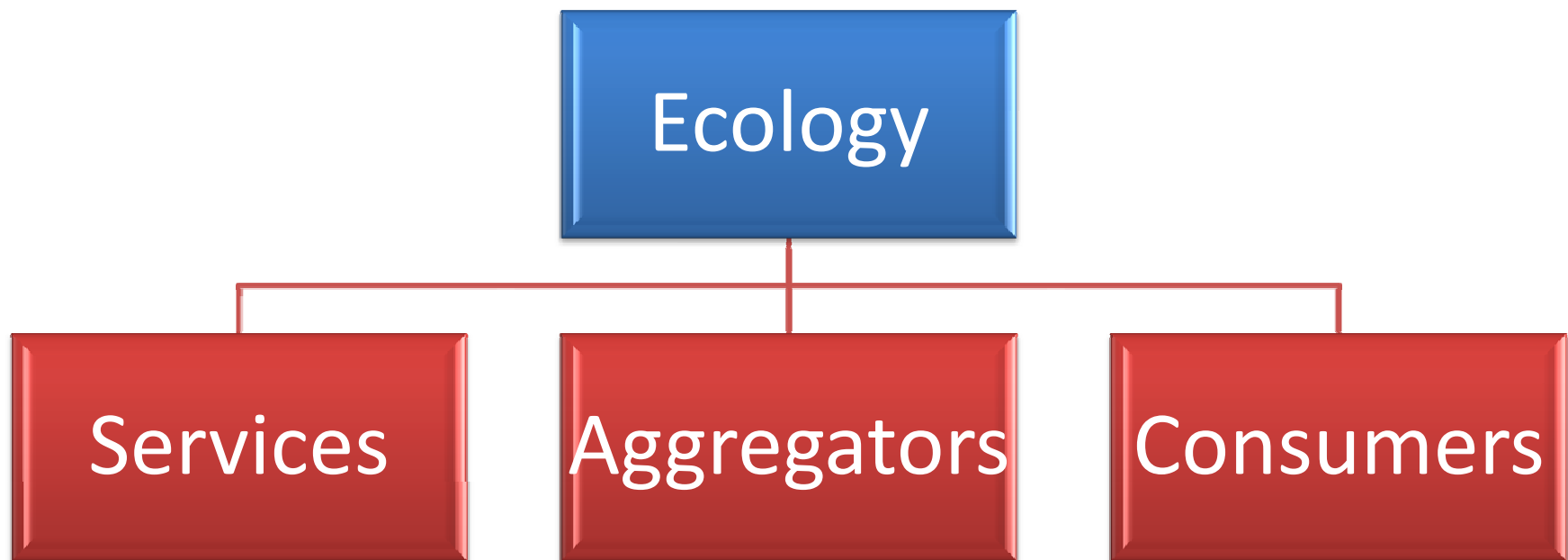
# Example - MMIS

- MITA specifies 78 services
- Interfaces are specified
- Modules can be anywhere
- Why not pick and choose modules?
- Let the infrastructure integrate them

# Example - EHR/NHIN

- Current HIE/NHIN is an add on to EMR
  - EMRs have low market penetration
  - HIE/NHIN adds cost
  - Potential value to payors but apparently little perceived value to providers
- Break EHR up into small services
  - Integrate with MBA
  - Exchange of data is built into the architecture

# Service Ecology



# How Do We Get There?

1. Incrementally
2. Pick a starting point
3. Assemble stakeholders into governance
4. Vendor(s) build product
5. Evaluate result
6. Advertise success & and build the next one

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