INF5210 – lecture 17.10.03

Agenda :

- Summary of analysis i 1. deliverable
- Installed base and Bootstrapping
- More on ANT analysis
- Discussion of 2. deliverable
- Other issues

The cases

- Skolenettet.no (Schoo)l nett
- http://bibliotek.kulturnett.no/ Library net
- Public Key Infrastructure (PKI)
- Forsvarets II (FIS)
- Helsenettet (National Health Network
- Døgnåpen forvaltning ("Self Service Management")

Some questions in 1. deliverable

- Are they (or will they become) an II,

  or are they just an IS or something else, e.g. portal?

  » *Open, shared/sharable, enabling ,standardized, evolving, socio-technical, heterogeneous*

  » Star and Ruhleder: *Embeddedness,Transparency, Reach of scope, links with conventions of practice, embodiments of standards, becomes visible upon breakdown*

What type of infrastructure are they?

- The structure of infrastructures

application infrastructure

service infrastructure   transport infrastructure
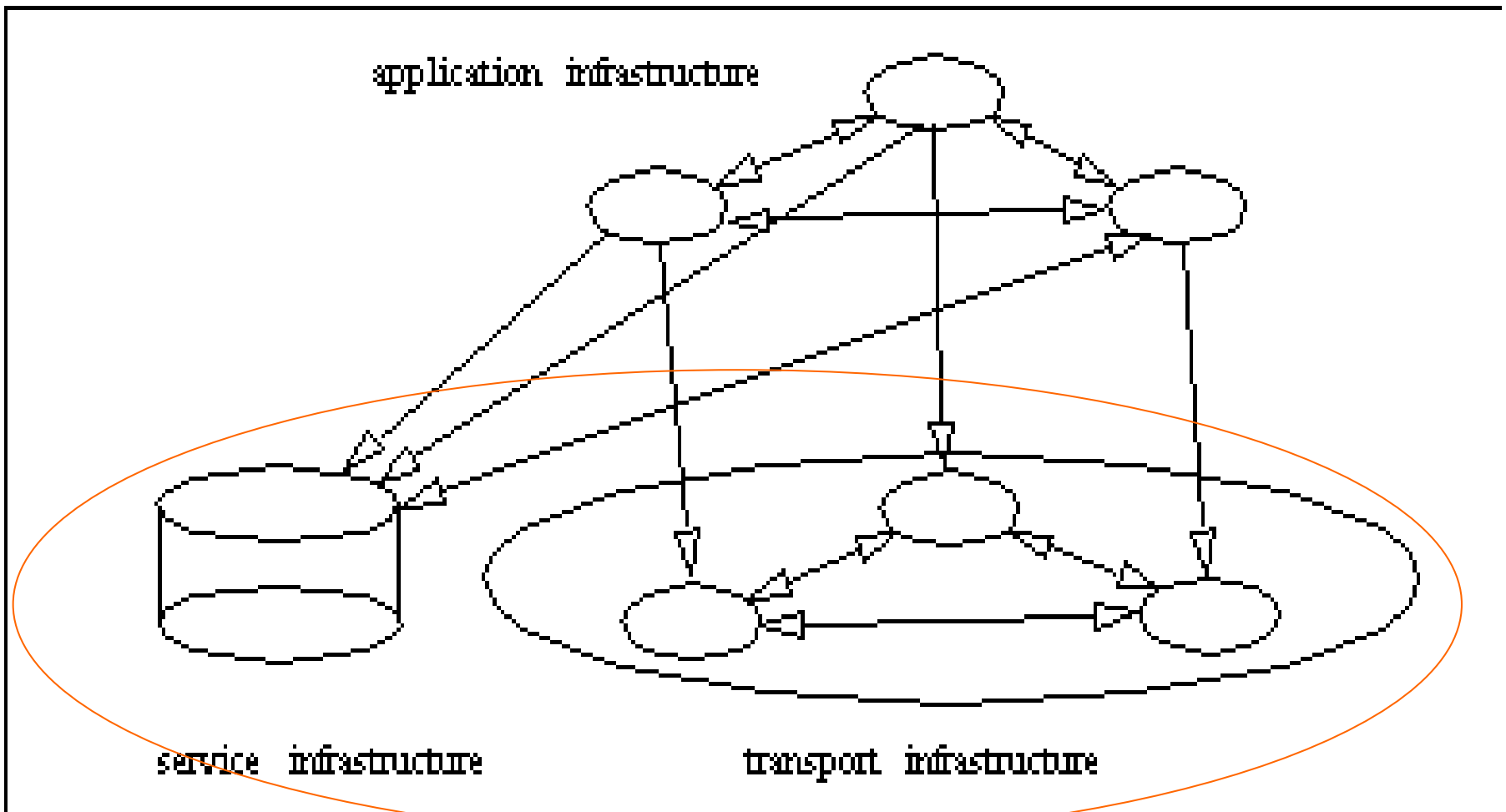
Are they built on the existing installed base?

Infrastructures never starts from nothing

  » Something always exist

  » We cannot bypass the history

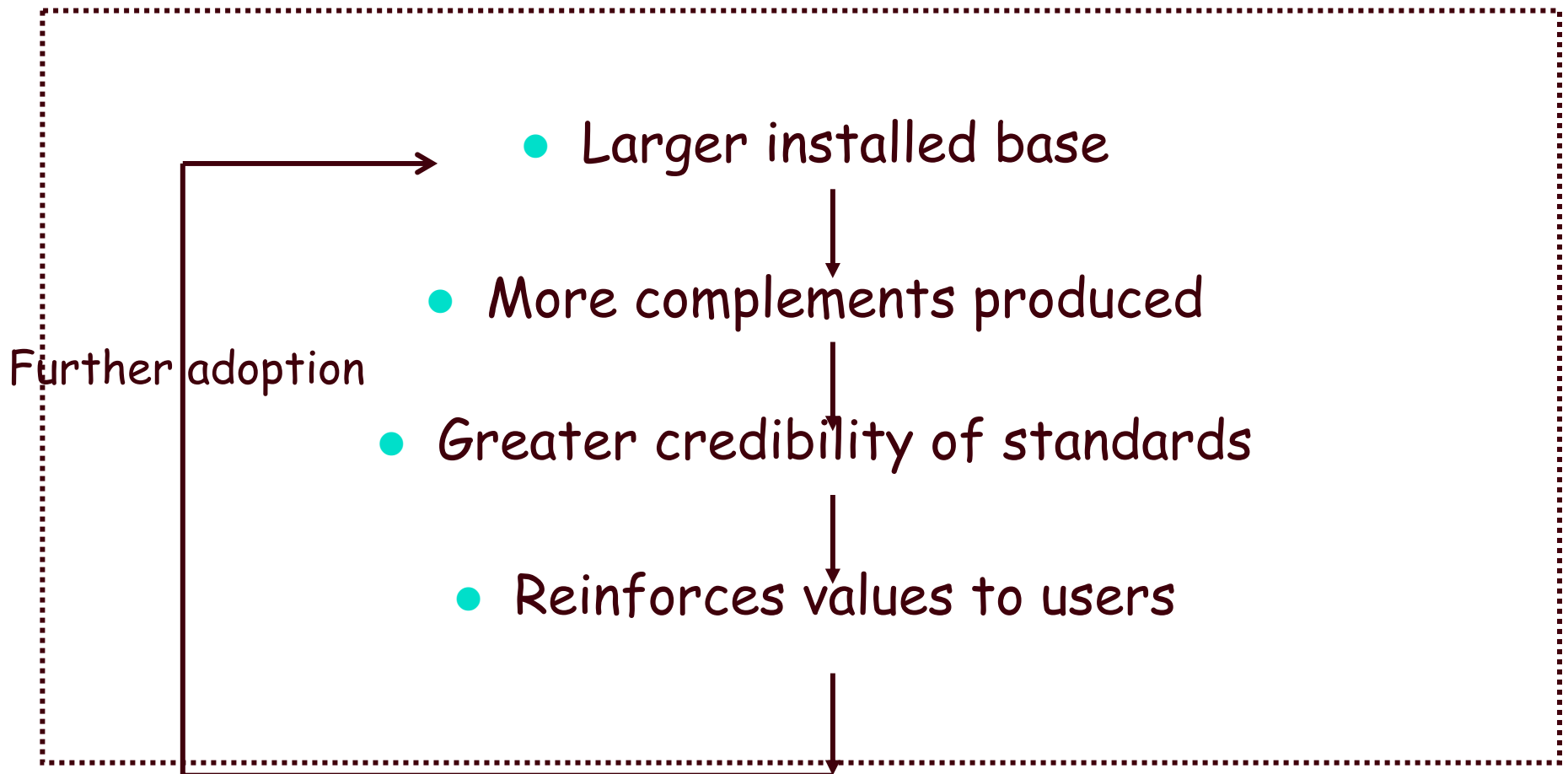➔ *Can only be modified and extended.(Is that always true?)*

● The installed base includes:

  » Nodes in the network; equipment and software, vendors,..

  » Protocols, standard, documentations, routines, ….

  » Operations and support, documentations,

  » Knowledge and experience, textbooks

Installed base as an actor

● Re-enforcing mechanisms

  » In order to work, it must be aligned with the existing

  ● Larger installed base

  ● More complements produced

  Further adoption

  ● Greater credibility of standards

  ● Reinforces values to users

Installed base - design strategi :

Different view of the installed base

As a material *to be shaped*, *improved* and extended through an iterative process

and

As a *heterogeneous actor-network* which lives its own life outside the full control of designers and users :

➤ It must be *cultivated* as an organisms

To what extend do you find such patterns in your case II ?

Strategies – lessions from Internet

- **Flexibility**
  - » Flexible standards and technical solutions
- **Modularisation and encapsulation**
  - » E.g. The Internet IMPS and layered structure
- **Minimal solutions**
  - » E. g. Internet versus OSI-protocols
- **Gateways**
  - » From N*(n-1) to M (= different protocols or subnets)
- **Transitions strategies**

Bootstrapping an self-reinforcing installed base

1. Target the II for a group of users it is usefull for
2. Design the solution so that it is useful for some users without an existing installed base
3. Design the II as simple as possible
4. Build on existing II as far as poosible
5. The usefullnes of a new II can be increased by establishing gateways to already existing ones
6. Jump on 'bandwagons' in the right direction
7. Start building the II where only few provides information

Decomposing heterogeneous infrastructures

- ## Ecologies of infrastructures

application infrastructures   neighbouring infrastructure

gateway

support infrastructure
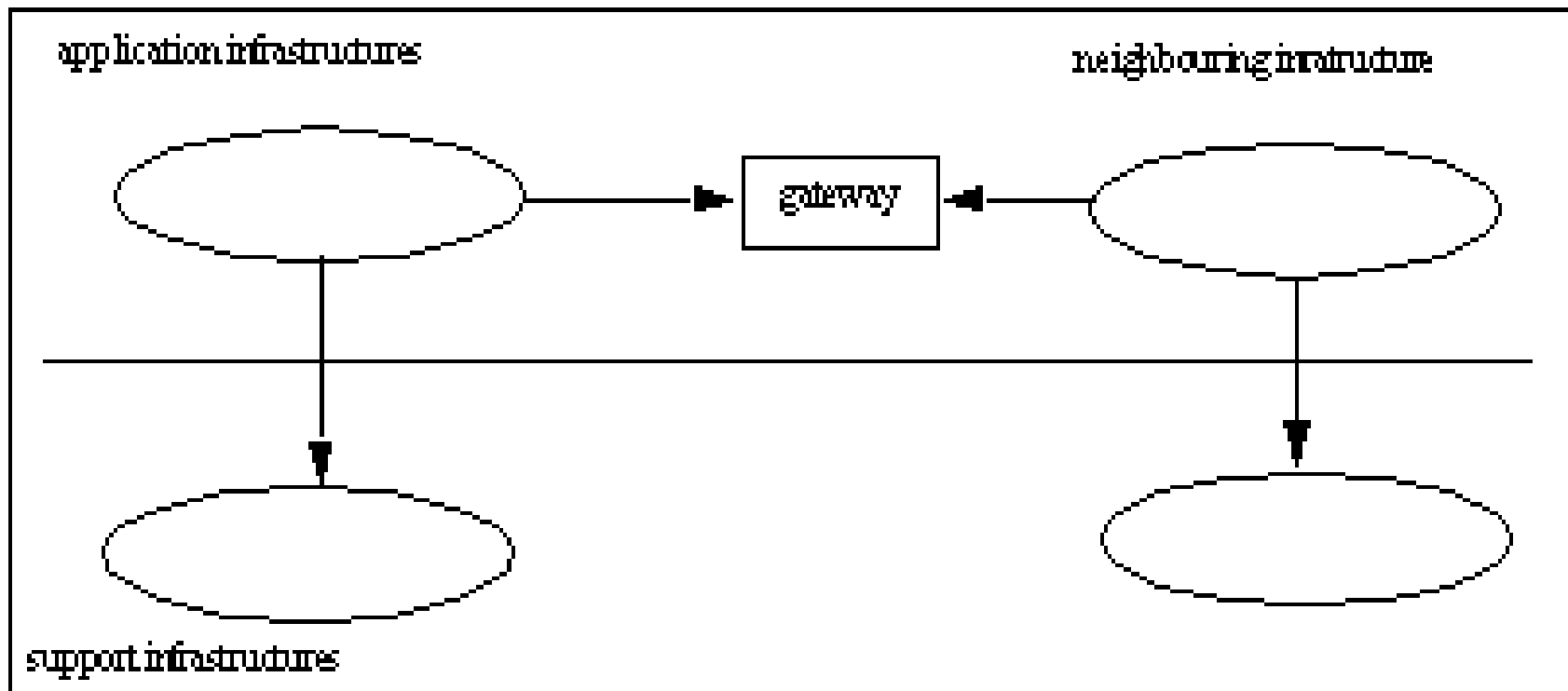
Managing (avoid?) lock-ins

1. Make the infrastructure small and simple
2. Implement new versions using gateways
3. See if it is poosible to split infrastructure into independent sub-infrastructures

Supporting infrastructures

- Use existing II as *transport* infrastructure
- Design the application II independent of the transport II
- Build the first version without the need for a specific service infrastructure
- Build the required service infrastructure when a application infrastructure is getting momentuum

Installed base in an ANT perspective

- An installed base (IB) in a heterogeneous network of technologies/technical artifacts and humans that is aligned

  » This network (IB) Is not static, but is continuously shaped and reshaped through various processes of translations – through the current use of the artifacts – also called *drifting*

  » An IB may also be changed through integration of new technology (e.g. IP/TCP and WWW)

  » A transition from one standard to another Is not only a question of interoperability, but also of human interpretation

  » A technology is not inherently constraining or enabling, it makes only sense in a context of heterogeneous networks.

E. Monteiro
From systems to actor-networks - 1

1. Focus on **goals** instead of means
   1. ??

2. The context of use is the surrounding actor-network
   1. ??

3. Artifacts do not exist in a vacuum, but are connected; they belongs to an encompassing actor-network
   ??

4. Unpack complexity by zooming in – or collapse by zooming out
   ??

5. Any analysis needs to delimit the foreground phenomena from the background- but ANT cannot help doing that

From systems to actor-networks - 2

6. The basic for interpreting a process is the tracing over time of different translations that go into different inscriptions.

7. Focus on 4 aspects of inscriptions:

   i) what is the aim

   ii) who inscribes

   iii) into what material is the inscription made

   iv) how strong is the inscription

8. Stability is a measure of the degree of alignment

9. For technology, every day is a working day

10. Irreversibility is a measure of

   i) how difficult it is to undo decisions

   ii) the extent to which these determine subsequent ones

The ANT analysis –
how can it help building an II

- What are the most important actors?
- How to identify and translate important user interest
- How to achieve strong inscriptions
- Obligatory passage points ?