

CC5001

Installation:

Systems installation

Data migration

Deployment

Business change

Training

Documentation

Installation issues

- Technical issues: installing IS components
 - hardware
 - software
 - network / communications
 - data-migration / set-up

Installation issues

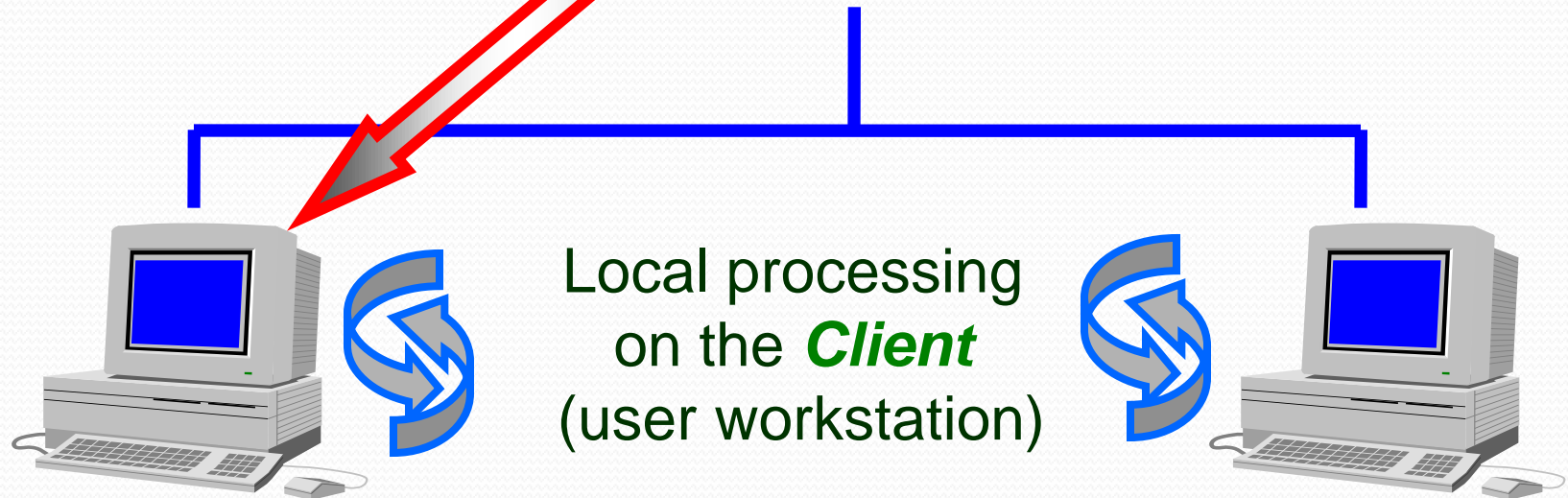
- Social (or human) issues
 - training users
 - educating people (“selling” the system)
 - business change
- Overall deployment strategy

Client/server architecture

Client connects to **server** for required remote processing e.g. data access



Remote processing on the **Server**



Processing is **shared** between the **client** and the **server**.

Categories of computer software

- Chaffey (2003) categorises software as follows:
 - **Systems software**
 - Operating systems (O/S)
 - client O/S, server O/S, network O/S
 - Utility programs
 - Development programs
 - **Applications software**
 - General-purpose software
 - Application-specific software

Technical installation/configuration

- May need to install and configure hardware
 - the server(s)
 - the client(s)
- May need to install (part of) a network

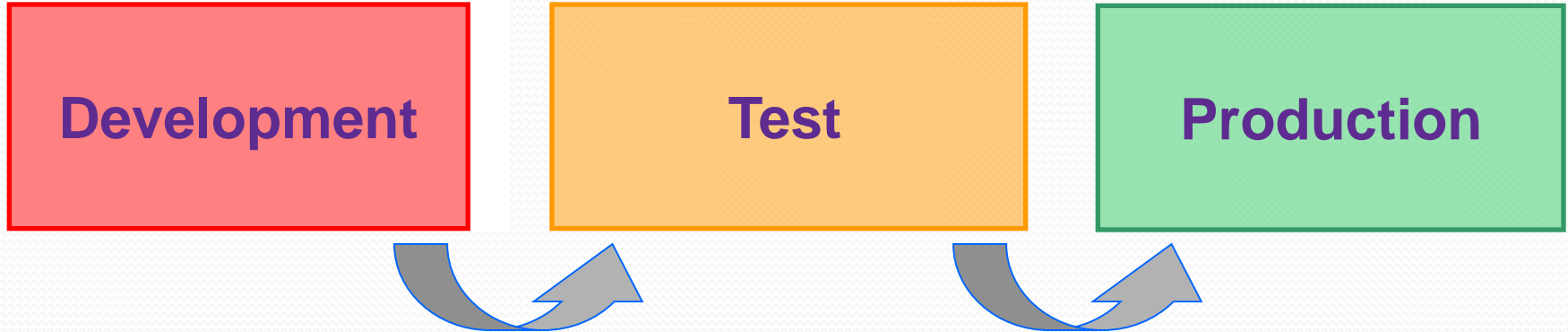
(for many IS projects, some/all hardware and network may be in place...)
- Will need to install:
 - the server application software
 - the database
 - the client application software

Software modules

- Application-specific software often developed in a modular fashion, so for an accounting system:
 - Purchase Ledger module
 - Sales Ledger module
 - Nominal Ledger module
 - etc.
- May be possible to implement/install *some* modules without installing *all* modules

Software migration

- How is software migrated to an operational environment?
- Different software environments - typically



- Migrating software through these different environments is ***Configuration Management***, control of this process is ***Change Control***

Data migration and set-up

- Where does initial application data come from?
 - Existing paper records
 - Existing information systems
 - New data, e.g. new coding scheme devised for new IS
- Data may be converted from existing IS, using a conversion program - maybe using ETL (extract-transform-load) software
- One-off data conversion or regular interface?



Data migration and set-up

- What might transformation involve?
- Extract data from another database
 - change structure
 - change format
 - add new attribute(s)
 - remove existing attribute(s)
 - change sequence (attributes in different order)

Data migration and set-up

Staff details: old record

Staff id	Name	Address	DoB	Grade	Marital status
01015	Jones, Betty	195 Long Lane, E14 7XD	12.10.60	SEO	Married

Staff details: new record

Staff id	Last name	First name	Address	Post code	DoB	Grade	Site
01015	Jones	Betty	195 Long Lane	E14 7XD	12/Oct/1960	4	Head Office

Data migration and set-up

Staff id	Name	Address	DoB	Grade	Marital status
01015	Jones, Betty	195 Long Lane, E14 7XD	12.10.60	SEO	Married

change of structure: name

Staff id	Last name	First name	Address	Post code	DoB	Grade	Site
01015	Jones	Betty	195 Long Lane	E14 7XD	12/Oct/1960	4	Head Office

Data migration and set-up

Staff id	Name	Address	DoB	Grade	Marital status
01015	Jones, Betty	195 Long Lane, E14 7XD	12.10.60	SEO	Married

change of structure: address

Staff id	Last name	First name	Address	Post code	DoB	Grade	Site
01015	Jones	Betty	195 Long Lane	E14 7XD	12/Oct/1960	4	Head Office

Data migration and set-up

Staff id	Name	Address	DoB	Grade	Marital status
01015	Jones, Betty	195 Long Lane, E14 7XD	12.10.60	SEO	Married

change of format: date of birth



Staff id	Last name	First name	Address	Post code	DoB	Grade	Site
01015	Jones	Betty	195 Long Lane	E14 7XD	12/Oct/1960	4	Head Office

Data migration and set-up

Staff id	Name	Address	DoB	Grade	Marital status
01015	Jones, Betty	195 Long Lane, E14 7XD	12.10.60	SEO	Married

change of format: grade

Staff id	Last name	First name	Address	Post code	DoB	Grade	Site
01015	Jones	Betty	195 Long Lane	E14 7XD	12/Oct/1960	4	Head Office

Data migration and set-up

Staff id	Name	Address	DoB	Grade	Marital status
01015	Jones, Betty	195 Long Lane, E14 7XD	12.10.60	SEO	Married

remove existing attribute: marital status



Staff id	Last name	First name	Address	Post code	DoB	Grade	Site
01015	Jones	Betty	195 Long Lane	E14 7XD	12/Oct/1960	4	Head Office

Data migration and set-up

Staff id	Name	Address	DoB	Grade	Marital status
01015	Jones, Betty	195 Long Lane, E14 7XD	12.10.60	SEO	Married

add new attribute: site

Staff id	Last name	First name	Address	Post code	DoB	Grade	Site
01015	Jones	Betty	195 Long Lane	E14 7XD	12/Oct/1960	4	Head Office

Data migration and set-up

Staff id	Name	Address	DoB	Grade	Marital status
01015	Jones, Betty	195 Long Lane, E14 7XD	12.10.60	SEO	Married

change sequence: DoB before address details

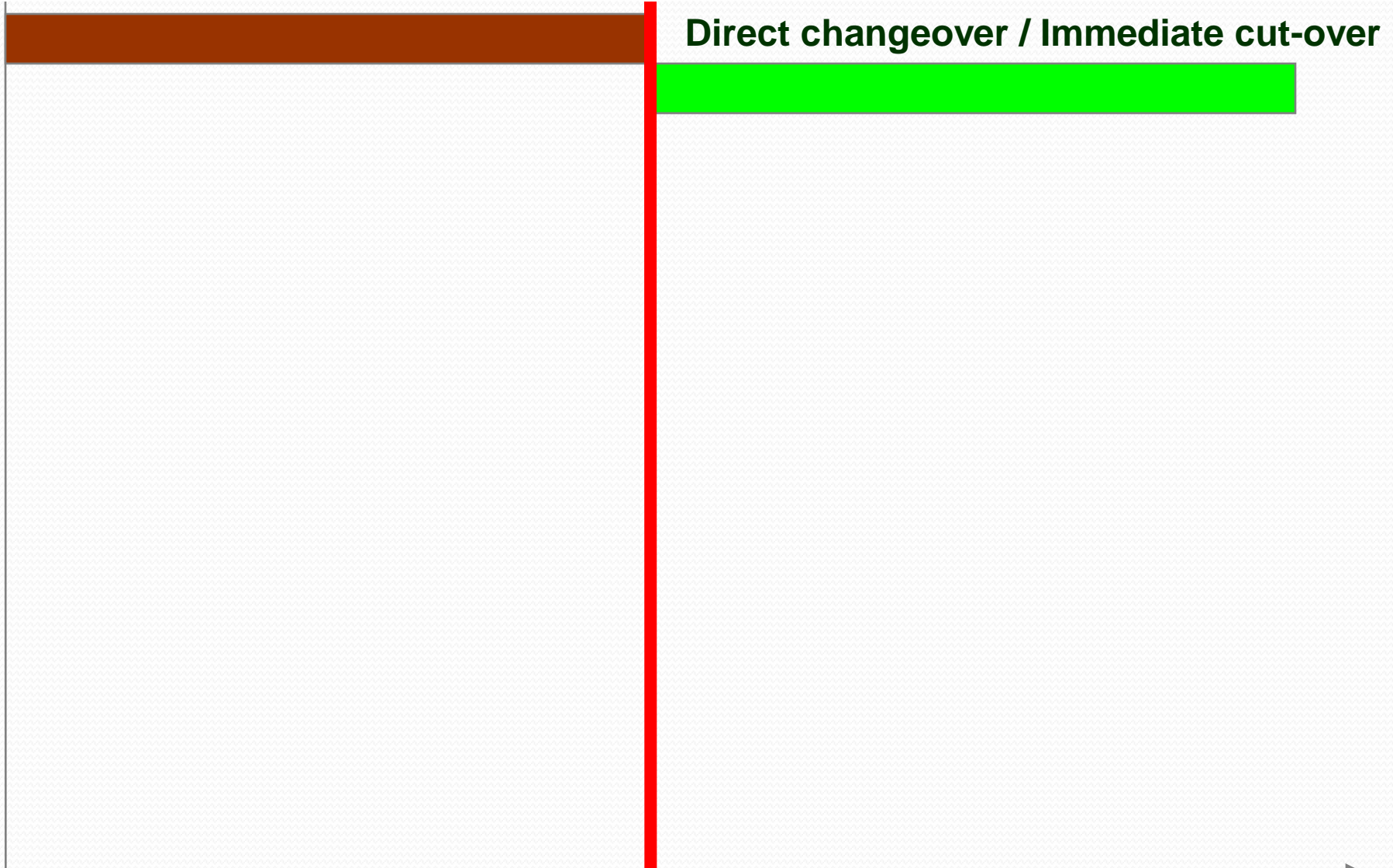
Staff id	Last name	First name	DoB	Address	Post code	Grade	Site
01015	Jones	Betty	12/Oct/1960	195 Long Lane	E14 7XD	4	Head Office

Deployment options

Existing system

Live date

New system

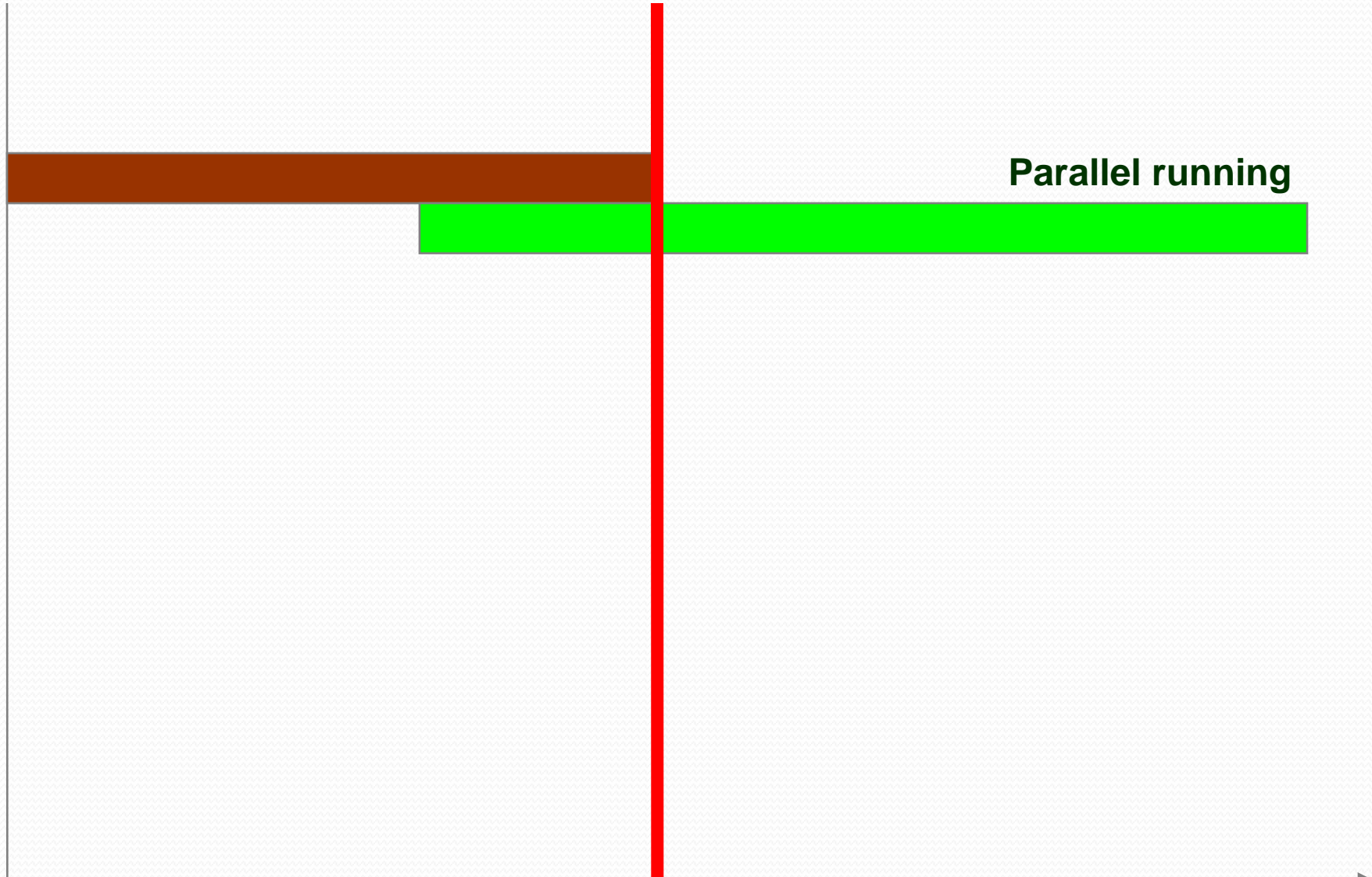


Deployment options

Existing system

Live date

New system



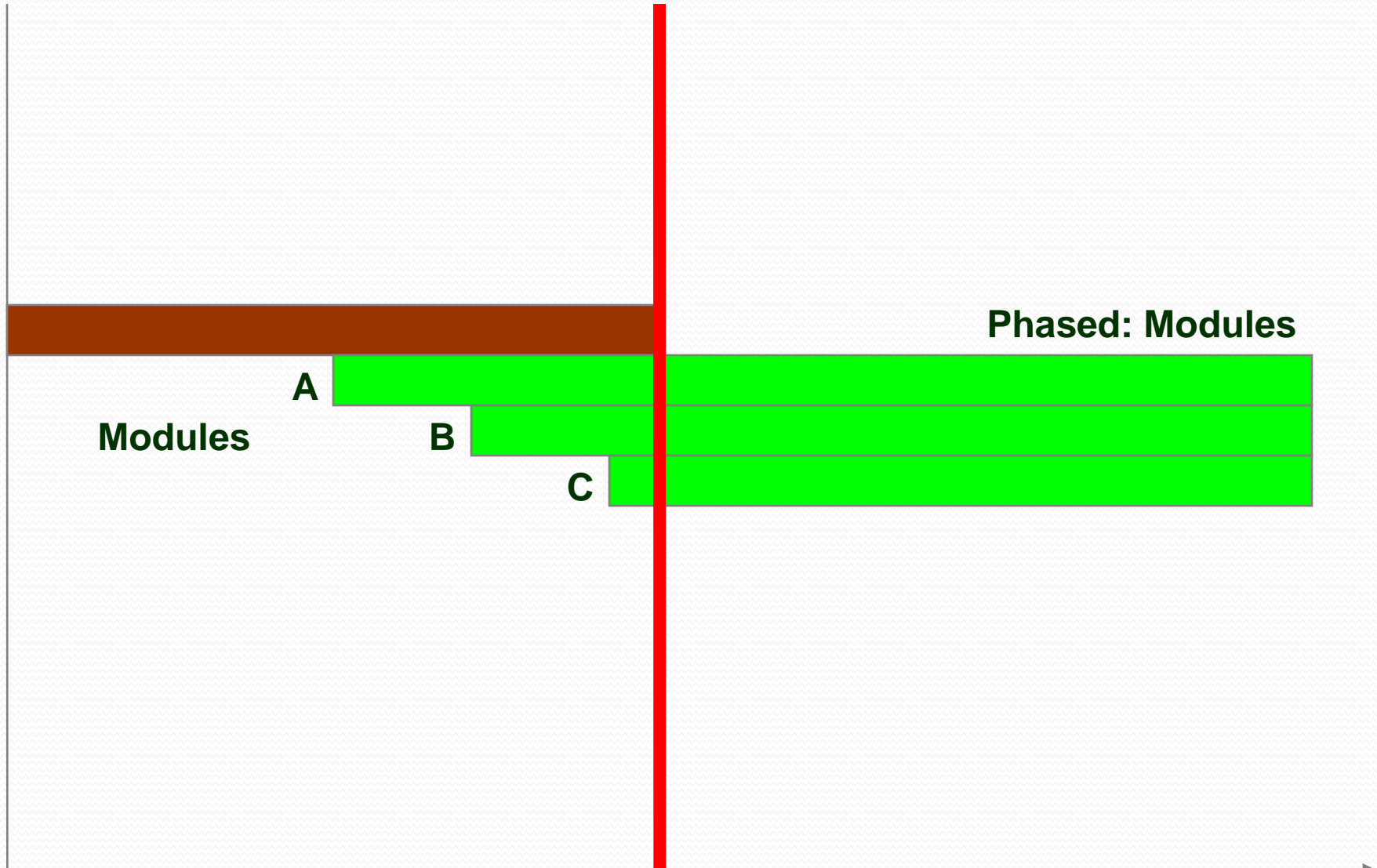
Parallel running

Deployment options

Existing system

Live date

New system

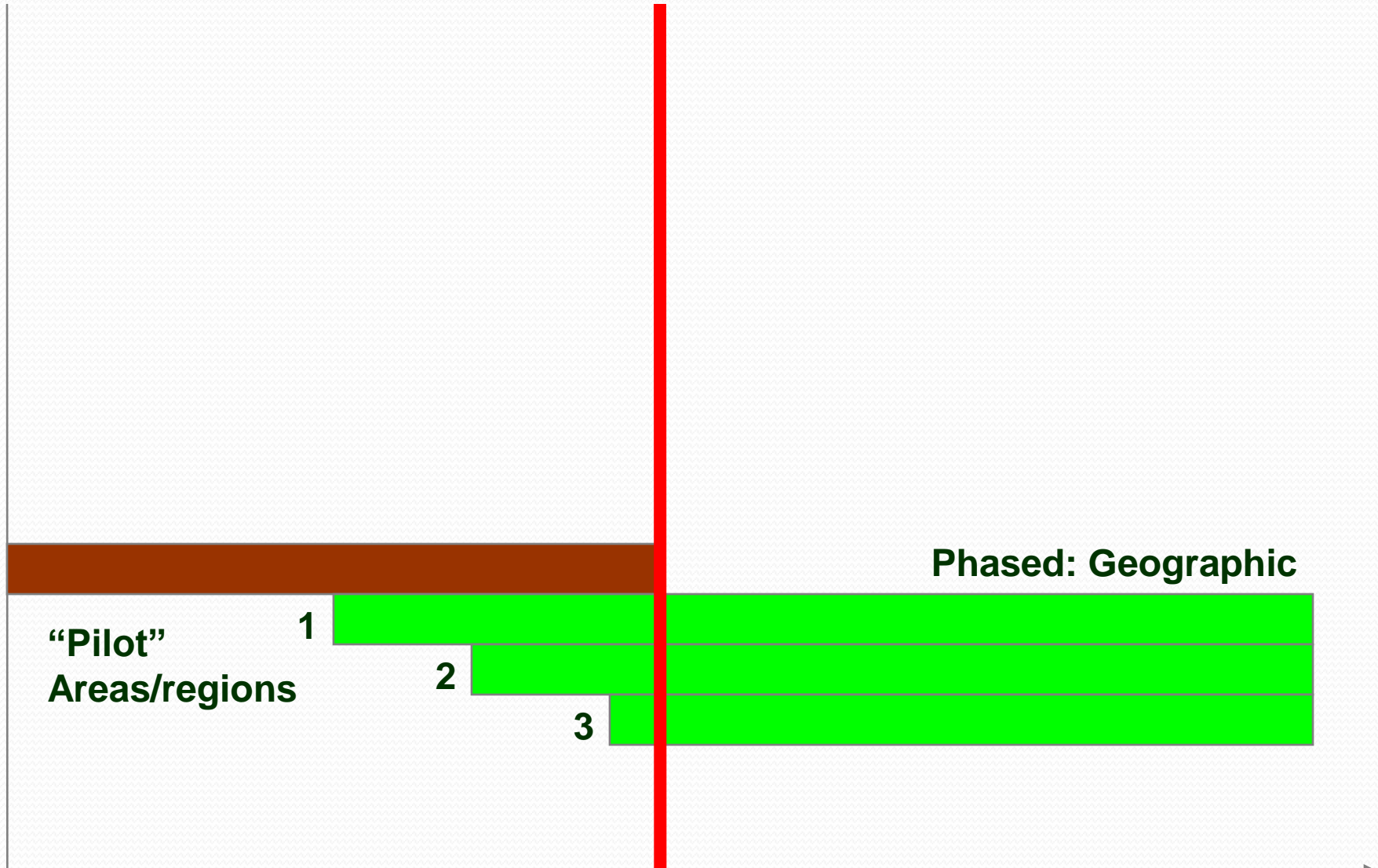


Deployment options

Existing system

Live date

New system

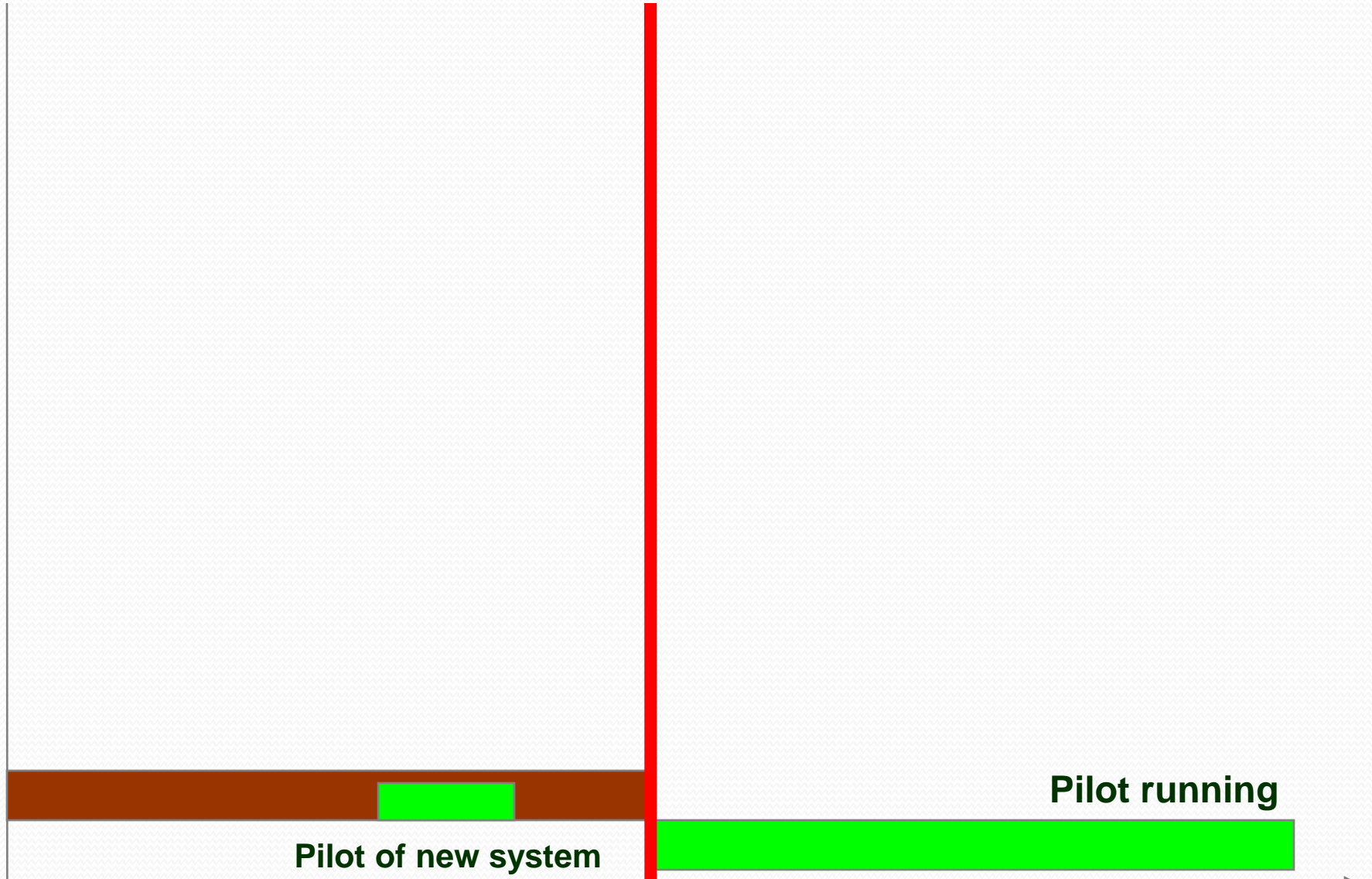


Deployment options

Existing system

Live date

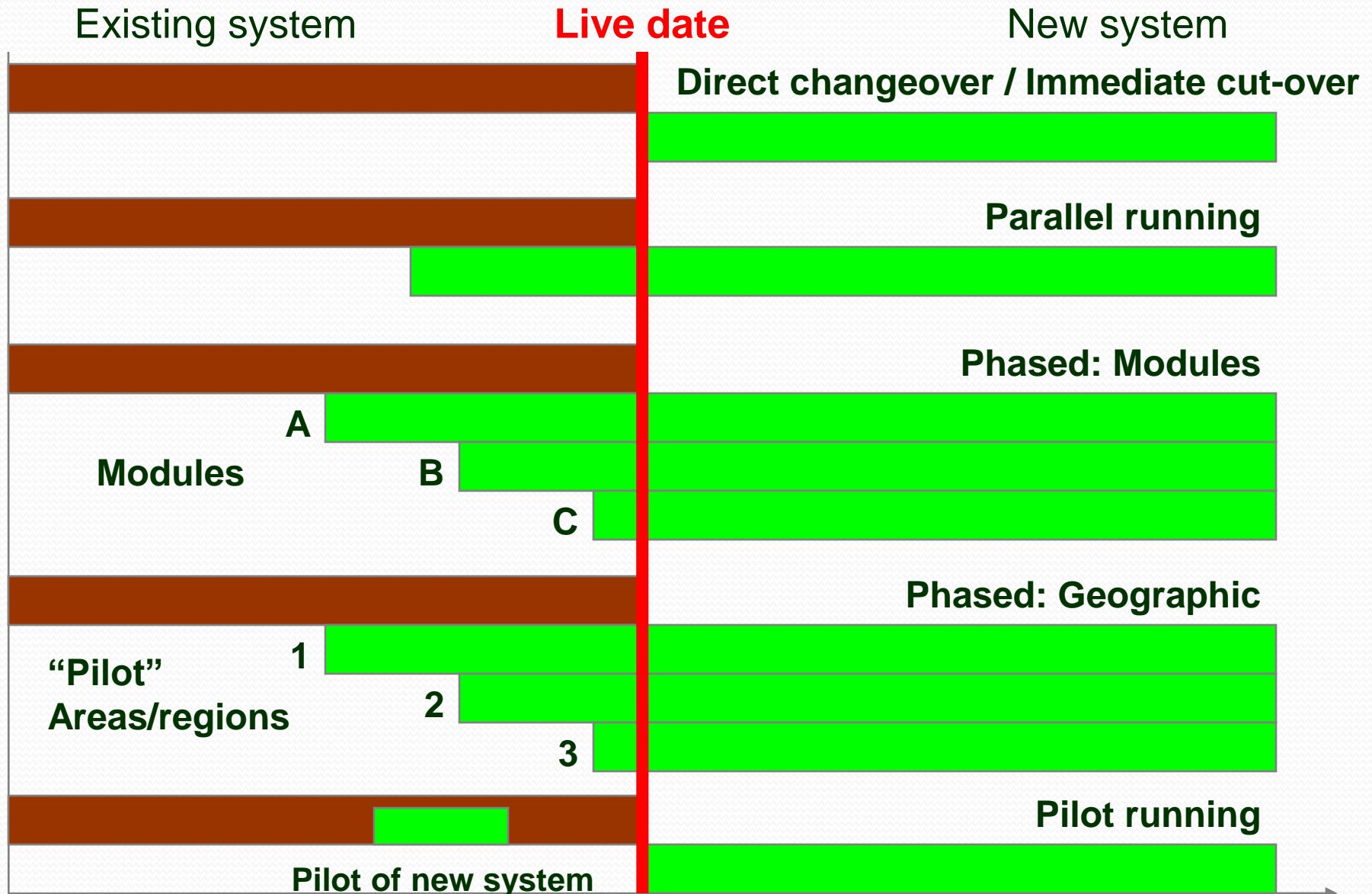
New system



Based on Chaffey (2003)

Time 

Deployment options



Deployment options

- Consider the impact in terms of:
 - staffing
 - workload
 - cost
 - time
 - inconsistencies
 - corroboration
 - correction
 - updates
 - discontinuing one of the systems

when selecting deployment options

Business issues *during* installation

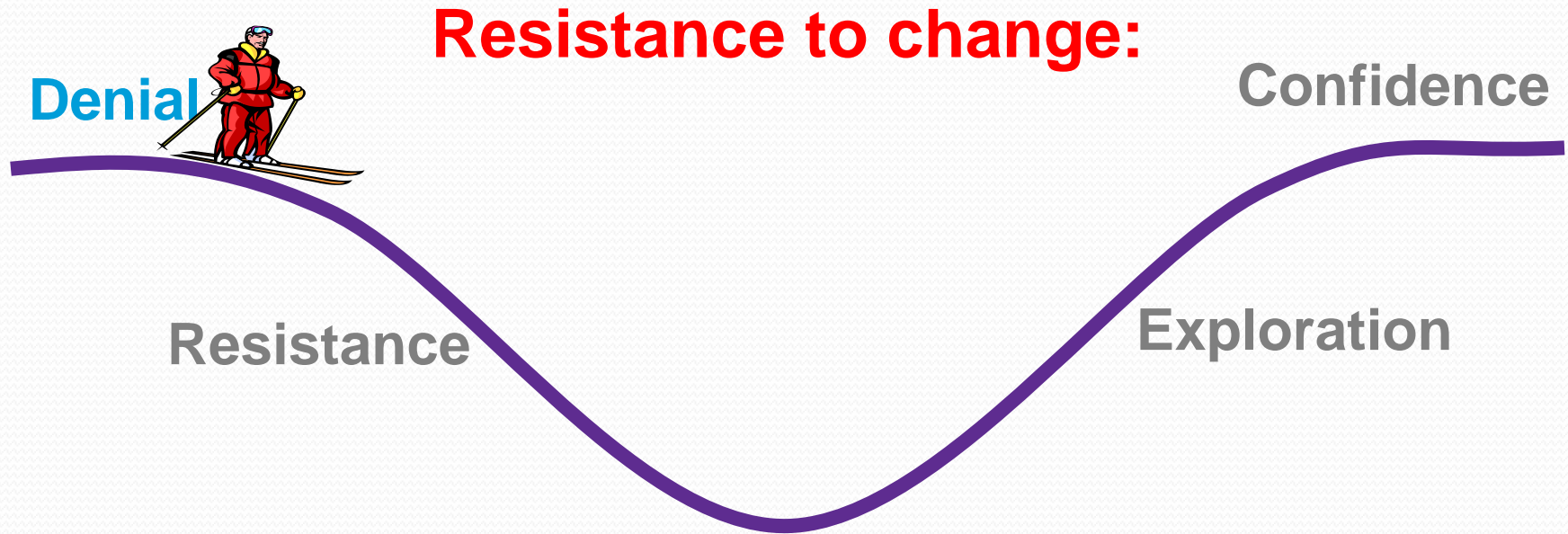
- Business continuity
 - Cannot stop all work to install new system
 - loss of business
 - loss of customers
 - loss of goodwill
- Establishing success of the installation
 - Reconciliation of converted data
 - Key process testing
- Backup (contingency) plan
 - what to do if things go wrong...
- Business and organisational change



Business and organisational change

- Any new system causes disruption to staff:
 - **changes** to patterns of work
 - **new** roles
 - new/ **additional** responsibilities
 - **risk** of redundancy
 - feel **threatened** by new technology
 - however good the new system, users will get it wrong sometimes (**make mistakes**)
 - need for **training** (fit into work schedule)
 - ... the new system **won't be perfect** either!

Phases of change



Managing change:

Launch

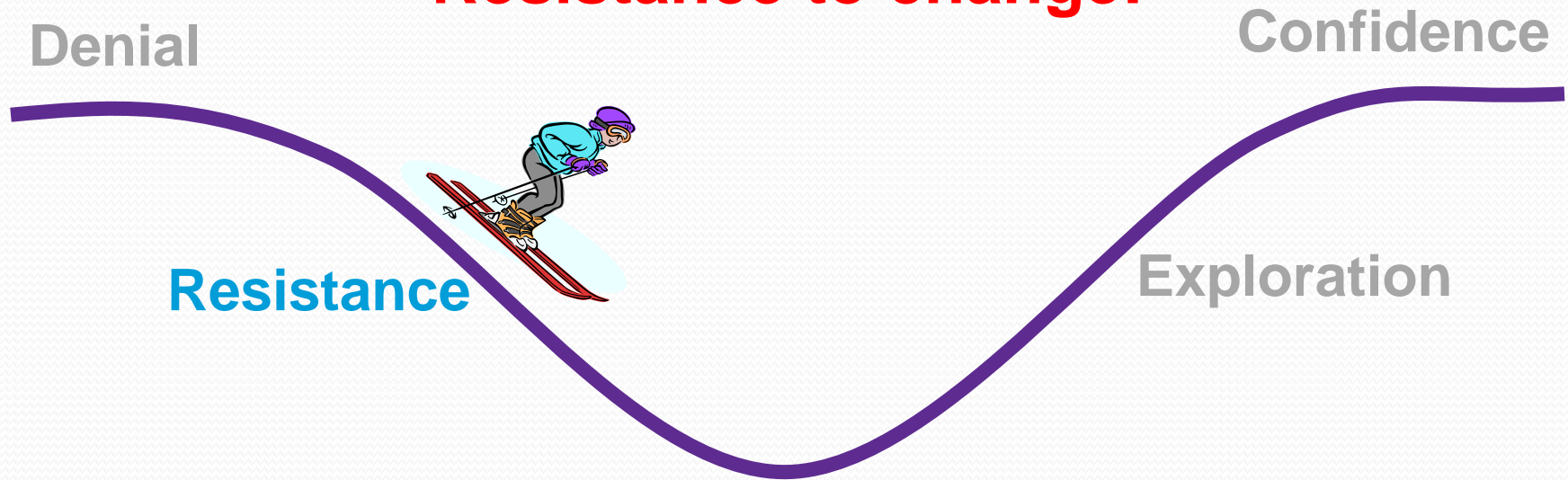
Communication

Education

Exploitation

Phases of change

Resistance to change:



Managing change:

Launch

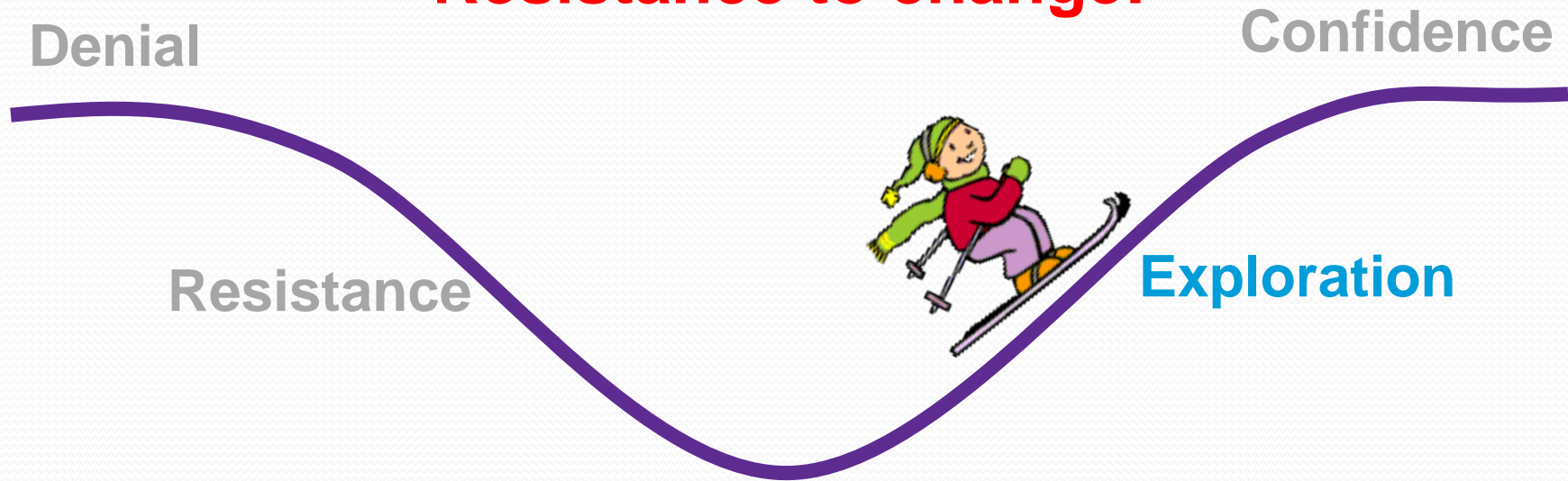
Communication

Education

Exploitation

Phases of change

Resistance to change:



Managing change:

Launch

Communication

Education

Exploitation

Phases of change



Resistance to change:

Denial

Confidence

Resistance

Exploration

Managing change:

Launch

Communication

Education

Exploitation

Change programme

A business change programme should run alongside the systems development project... and continue after it has been completed

Systems development

Support

Get users involved early... throughout systems development - requirements, design, testing, etc.

Change programme

Project management

Involve key user(s) in managing the project...
identify a user project manager to co-ordinate
business change management

Identify *champions* and *change agents*

Launch

Communication

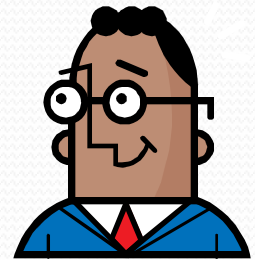
Education

Exploitation

Education: “*skilling the end-users*” and “*selling*” the system

Training

- Need to consider:
 - **Who** to train?
 - Identify the users
 - What do the users **need** to know?
 - **What** to train?
 - Different users have different requirements
 - Tailor training for specific user groups



Training

– **Planning** the training

- Who? How? Where?
 - Development team?
 - Professional trainers?
 - Classroom training – away from work environment
 - “On the job” training
 - Computer-based training
 - » CD, DVD, on-line, in-built tutorial, FAQs?



– **Conducting** the training

- Roll out across the organisation
- Train the trainers, etc.
- Timing – when is the system going live?

Documentation

- Document the system
- For maintenance

- Why was this done?
- How was this this done?
- Why was it done this way?

(speed, efficiency, elegance of solution, ease of maintenance, recursion versus iteration, memory versus processing...)

- For end-users

- How do I get the system to do ...?
- What does this error message mean?



Summary

- Need to consider
 - Technical aspects
 - Hardware
 - Software
 - Data
 - Documentation
 - Human aspects
 - Impact on staff
 - Workload
(especially if running new & old systems in parallel)
 - Training
 - Documentation
 - Impact on business

Further reading

- Beynon-Davies, P., 2002, *Information Systems*, Palgrave
- Cadle J. & Yeates D., 2001, *Project Management for Information Systems*, 3rd ed., FT Prentice Hall
- Chaffey, D. (ed.), 2003, *Business Information Systems*, 2nd ed., FT Prentice Hall
- Curtis, G., 1998, *Business Information Systems*, 3rd ed., Addison-Wesley
- ... and see references page 508 Chaffey (2003)