InterConnect Communications
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Interconnection Costing

Eric Tyson

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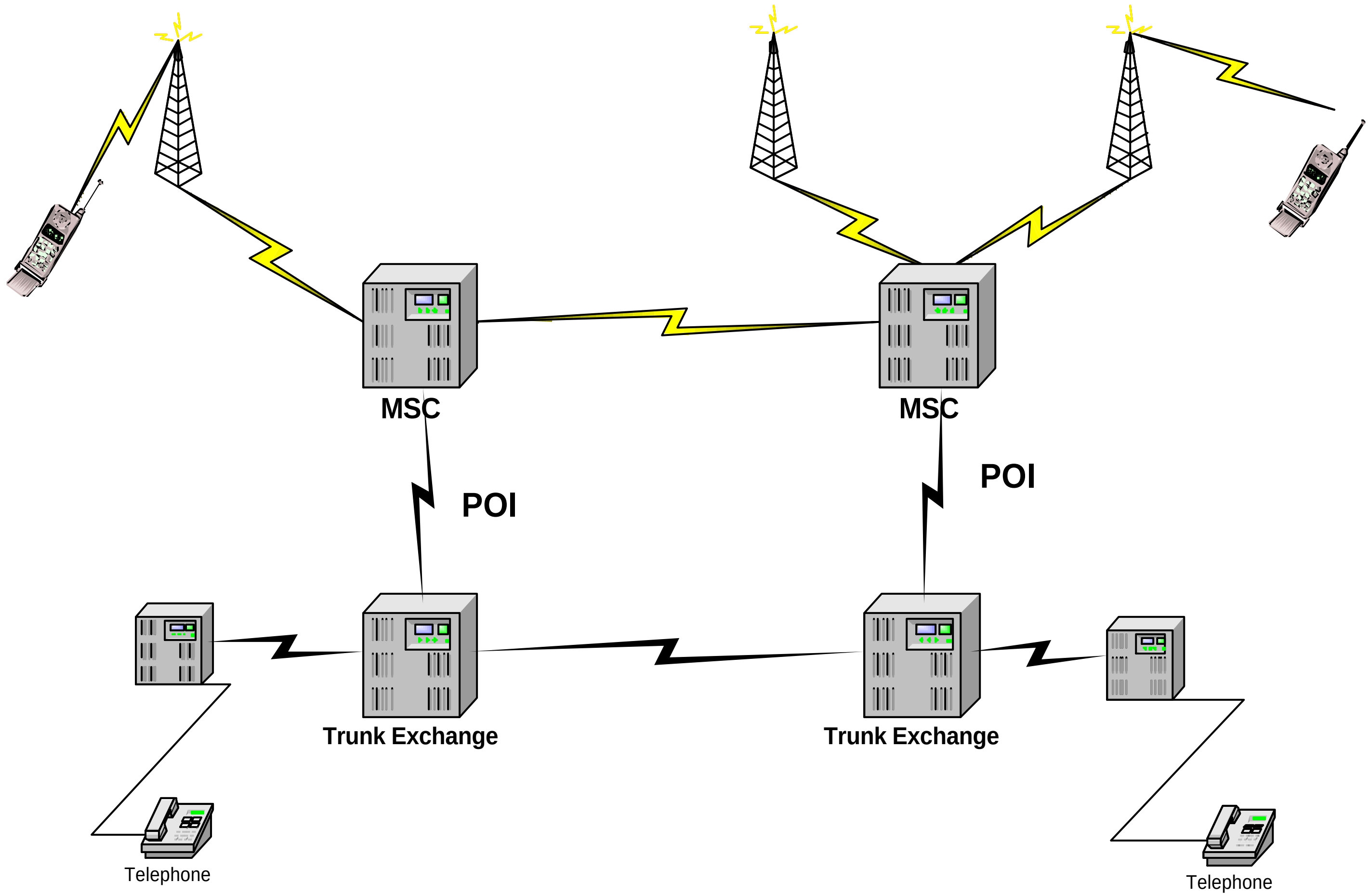
Agenda

- Key elements in interconnection?
- Involved parties
- Cost allocation methodologies
  - Revenue Sharing,
  - Fully Allocated Costs (FAC),
  - Current Cost Account (CCA),
  - Long Run Incremental Costing (LRIC)
    - Top down
    - Bottom up



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Involved parties

- Incumbent fixed line operator
- Competing fixed line operator
- Mobile operator
- Regulator/Ministry

Incumbent operators

- Operate profitably
- Rebalance tariffs
- Cost oriented customer tariffs
- Ensure all realistic costs are included in interconnection charges
- Maintain investment programme

Competing fixed operator

- Low interconnect rates
- Transparent method for calculating interconnect charges
- Element based charges
- Charging structure not tied to incumbent's tariff structure
- Access to all services e.g. Directory Enquiries, Operator Services, Emergency Services at reasonable cost

Mobile operator

- Element based charges
- Transparent method for calculating interconnection charges
- Incumbent operator not making high retentions on calls to mobile networks
- Realistic payments for terminating traffic from other operators

Regulator

- Full account separation
- Clear, transparent, methodology for calculating I/C charges
- Rebalanced tariffs (political issues)
- Regulation through Return on Capital Employed (ROCE)
- Control of fixed operator’s asset depreciation policy

Cost Allocation Methodologies

- Revenue Sharing
- Fully Allocated Costs (FAC)
- Current Cost Account (CCA)
- Long Run Incremental Costing (LRIC)
  - Top down
  - Bottom up

Revenue sharing

- Starting position before tariff rebalancing
- Can be used if costs are not understood
- Difficult to justify in a competitive environment
- No incentive to reduce costs

Fully allocated costs

- Historic costs
- From company accounting system
- Cost causation principle
- Results by service
- Network cost elements

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FAC - advantages

- Reconciliation with published accounts
- Low cost of application ?
- Aims to recover all costs
- Transparent

FAC - disadvantages

- Backward looking
- Broad brush
- Can involve arbitrary allocations
- Uses book value of assets
- Includes inefficiencies
  - Manpower
  - Equipment overcapacity

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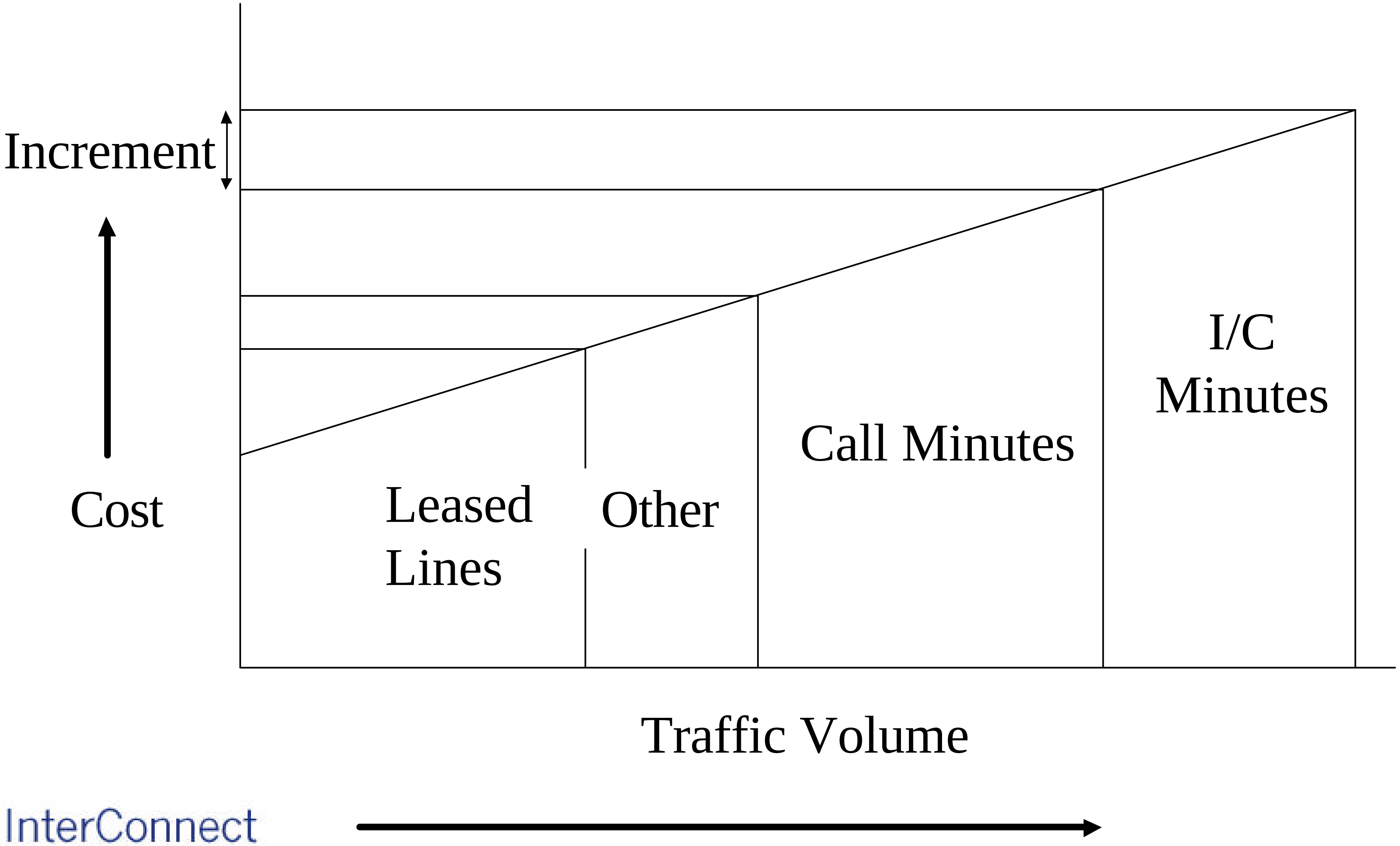
Current Cost Account

- Based on FAC methodology
- Revalue fixed assets to reflect current value
- Effect on different services
  - Cables / ducts
  - Switches
  - New technology
- Better reflection of cost of fixed assets

Long Run Incremental Costs

- The average additional cost of supplying a finite or discrete increment
- Same as marginal cost where increment equals one

LRIC relationships



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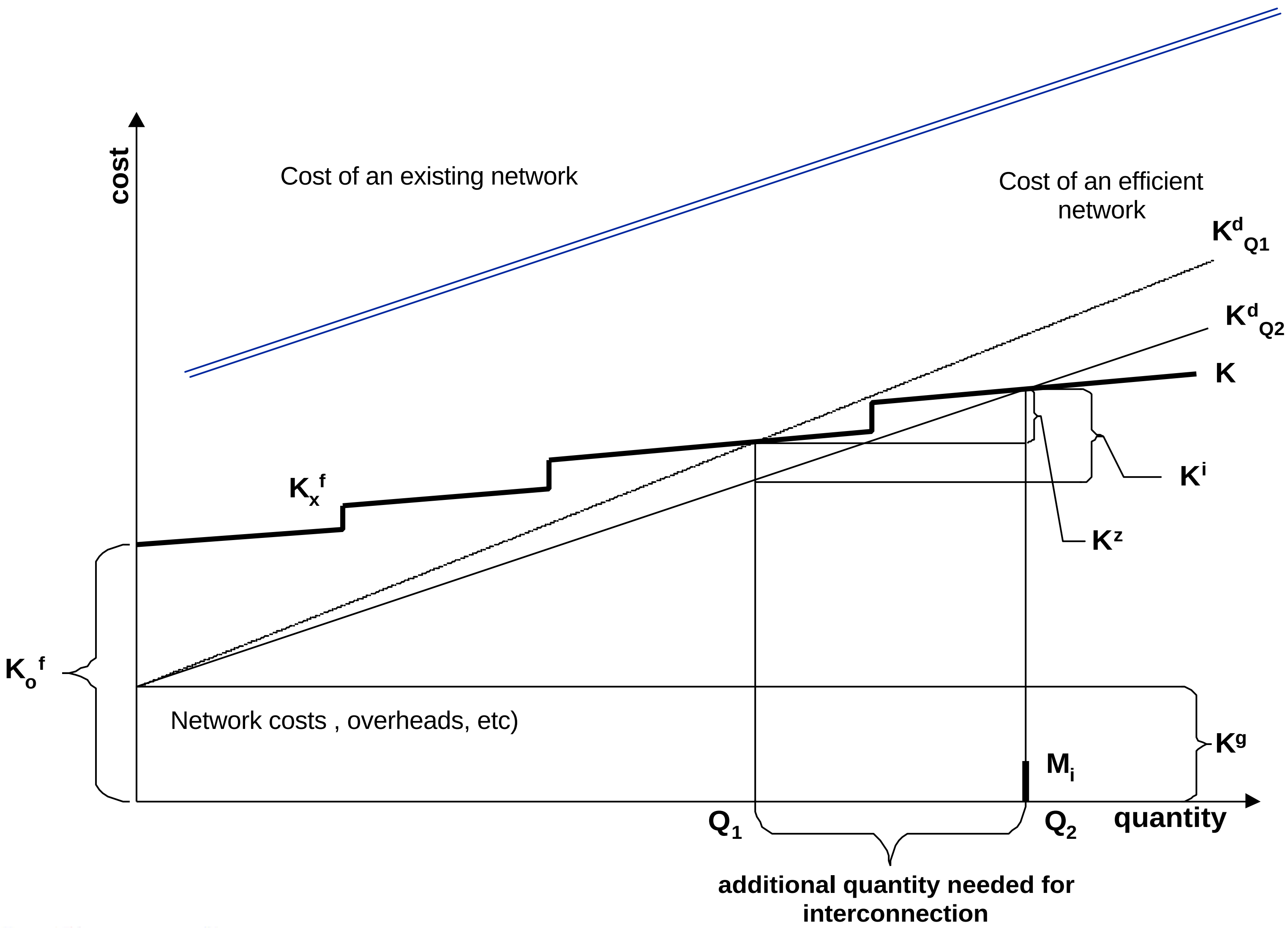

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Source: Telekom Control

K	Total cost of an efficient network
K_0^f	Fixed cost of an efficient network
K_x^f	Step fixed cost of an efficient network
K^g	Overhead cost of an efficient network
K^d_{Q1}	The slope gives the directly and indirectly attributable cost of quantity Q_1
K^d_{Q2}	The slope gives the average directly and indirectly attributable cost of quantity Q_2
K^i	Average incremental cost of interconnection
K^z	Additional cost of interconnection (based on marginal cost)
M_i	Mark-up
Q_1	Quantity without interconnection
Q_2	Quantity including interconnection

Top Down and Bottom Up

- Top Down
  - Very similar to current cost accounting
  - Operator efficiency
- Bottom Up
  - Scorched earth vs scorched node
  - Calculated network costs
  - Uses current network utilisation data

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Scorched node vs scorched earth

- Scorched node:
  - maintain current network nodes
  - Remote Concentrator policy
  - modify technology e.g. PDH/SDH
- Scorched earth:
  - New network configuration
  - Current technology e.g. fibre to curb

LRIC - advantages

- Forward looking
- Cost causation well defined
- Current asset costs
- Promotes efficient investment
- Gives lower conveyance rates - Price Floor

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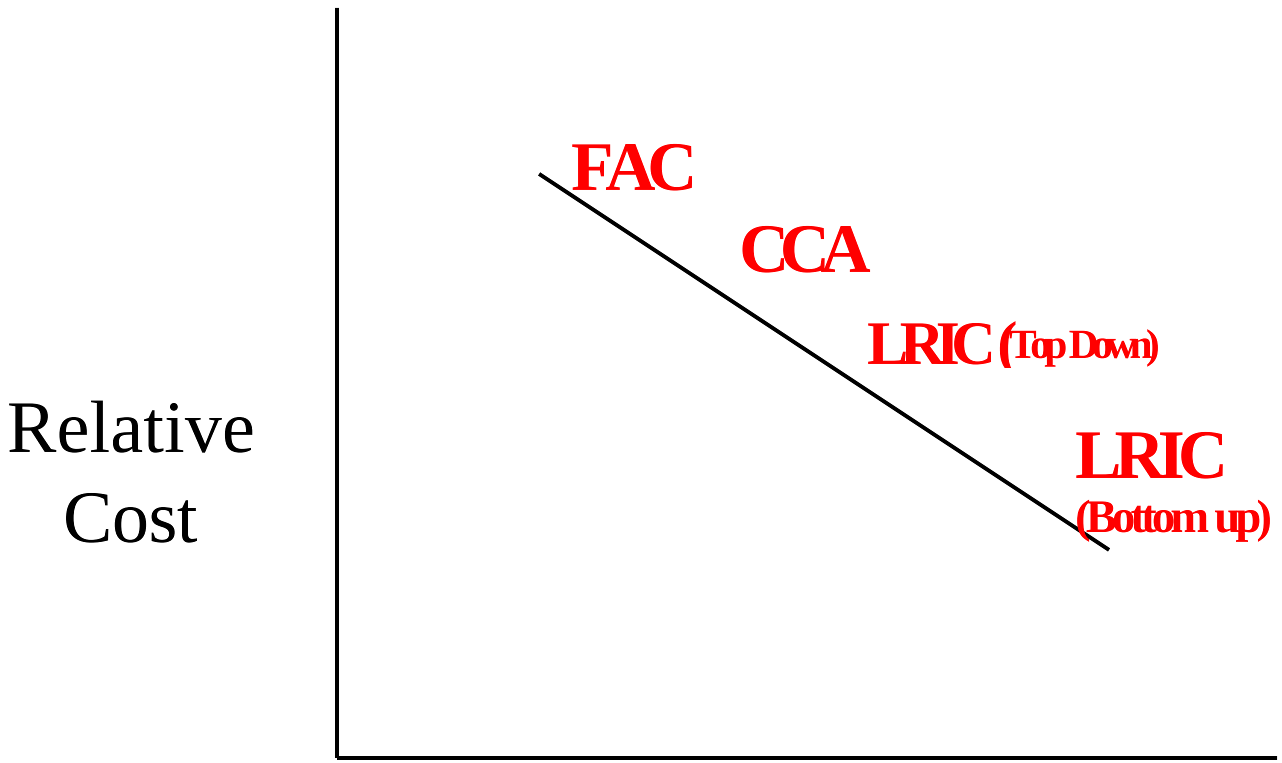
LRIC - disadvantages

- Defining the increment is difficult
- Only effective if traffic volumes are increasing
- Not the real world
- External audit not easy
- Treatment of shared and common costs - Equal Mark Up v Ramsey Pricing

Costing Methodologies for interconnection



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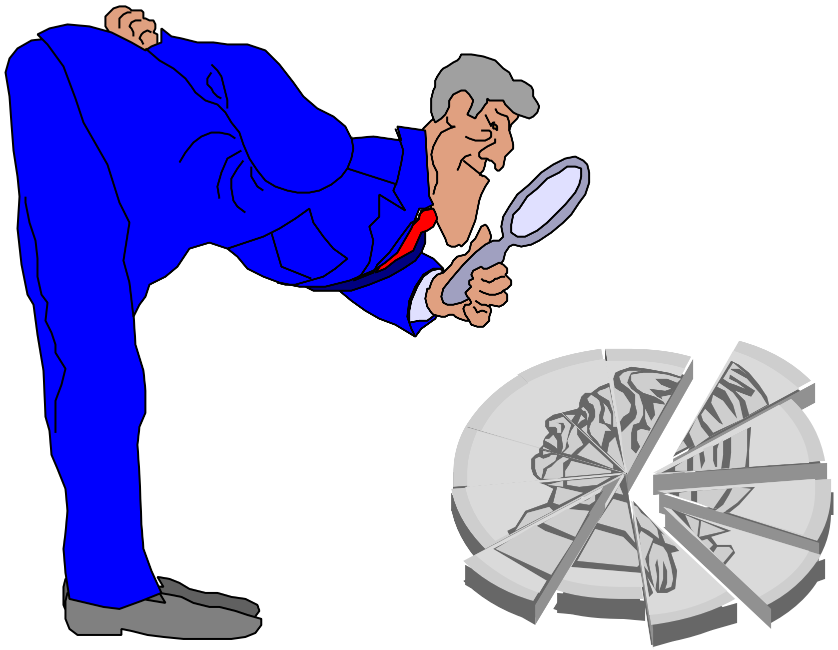
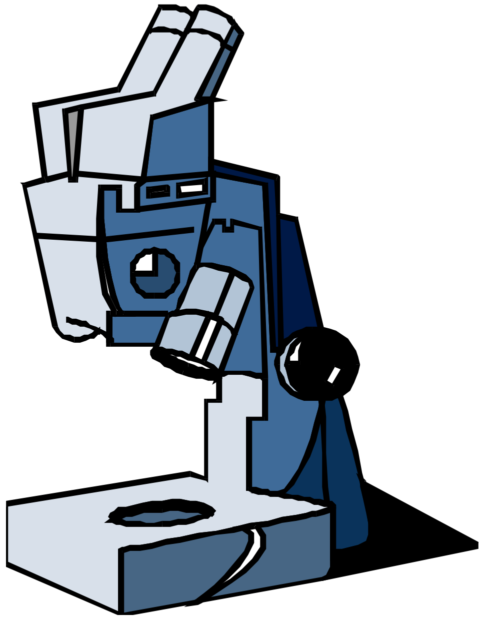
Balance





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Conclusions

- Cost based interconnect charging a requirement
- Methodology adopted must be appropriate to local situation
- Cost allocation is a complex, time consuming activity
- Requires resources and input from throughout the company
- Network element costs are based on individual network configurations and utilisation

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Eric Tyson
Merlin House
Station Road
Chepstow
NP16 5PB
United Kingdom

Telephone: +44 1291 638400
Fax: +44 1291 638401
Email: erictyson@icc-uk.com
Website: www.icc-uk.com

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