

Our objective

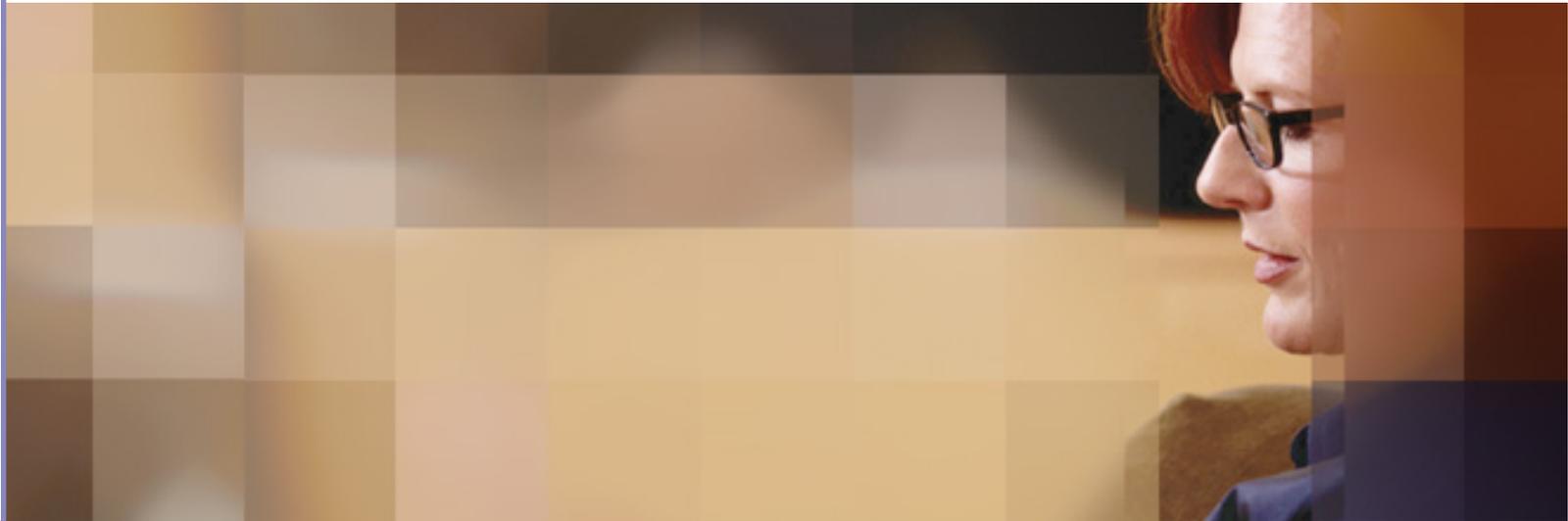
- *“To create an industry which is as efficient, innovative and responsive to end user needs as possible”* subject to the following constraints:
 - the Government can implement its ICT policy eg for:
 - rural access to basic services
 - an Internet access point in every village
 - privatisation of BTC is possible in the next 2 to 3 years
 - national welfare is not threatened by the failure of network infrastructure!

- The ultimate test of the success or failure of liberalisation is whether the customer has access to a sustainable range of modern telecommunications services at affordable prices

- Sustainability is not the same as ensuring that all operators survive!

Agenda

- Why liberalise further? DL
- Infrastructure or service based competition? DL
- Proposals for liberalising international services RH
- Proposals for liberalising national fixed voice services RH
- Proposals for licensing of mobile services RH

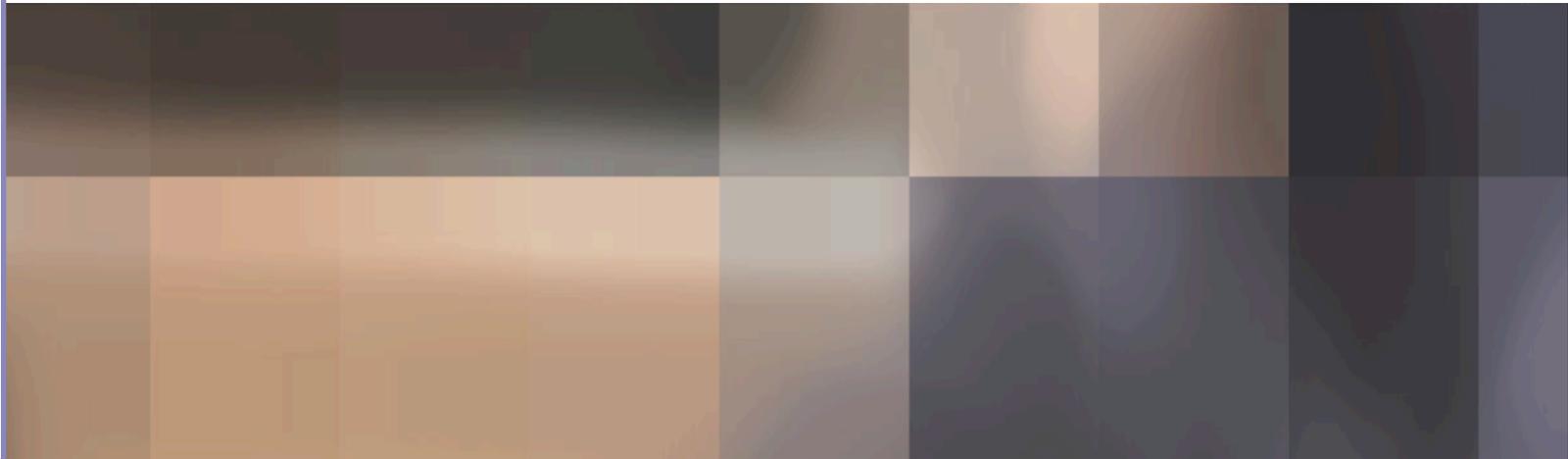


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Proposals for further liberalisation

A presentation to the Stakeholders' Forum on further liberalisation

David Lewin
Robert Hall
1st February 2005



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Why liberalise further?

Liberalisation vs competition

- Liberalisation removes **legal** barriers to competition
- But many **commercial** barriers remain:
- So liberalisation does not automatically lead to competition
- Given the unique characteristics of the Botswana market we do not know with any certainty where competition will emerge
- So we must make qualitative rather than quantitative assessment of costs and benefits of further liberalisation

Possible commercial barriers

- Customer acquisition costs are high (especially if customer switching costs are high)
- Incumbents enjoy substantial economies of scope and scale
- The scale of sunk investment which an entrant must make before revenues flow makes entry too risky
- Incumbents refuse to interconnect their networks with that of the entrant

Where will liberalisation lead to increased competition?

- Given the characteristics of the Botswana market we would not expect any entrant to replicate BTC's network
- But we would expect:
 - strong cross platform competition between BTC, Mascom and Orange:
 - each has a well established customer base
 - the 3 currently own virtually all telecoms infrastructure in Botswana between them
 - all 3 might offer combinations of fixed and mobile services in future
 - significant competition from fixed wireless access operators in the main towns:
 - offering a combination of voice and broadband Internet access
 - strong interest from existing data network operators
 - opportunity to leapfrog over existing technologies eg using WiMax
 - strong competition in the supply of international voice services:
 - BTC will have rebalanced substantially but...
 - .. this market is likely to remain a profitable one
 - some competition on wholesale transmission eg using BPC's fibre network

▪ We have designed our liberalisation proposals with these possible forms of competition in mind

What are the benefits of liberalisation?

Benefit

- Lower prices for end users
- A more cost efficient industry
- Better customer service
- Greater innovation in products and pricing
- Prices which reflect costs
- A bigger market with more users using more services

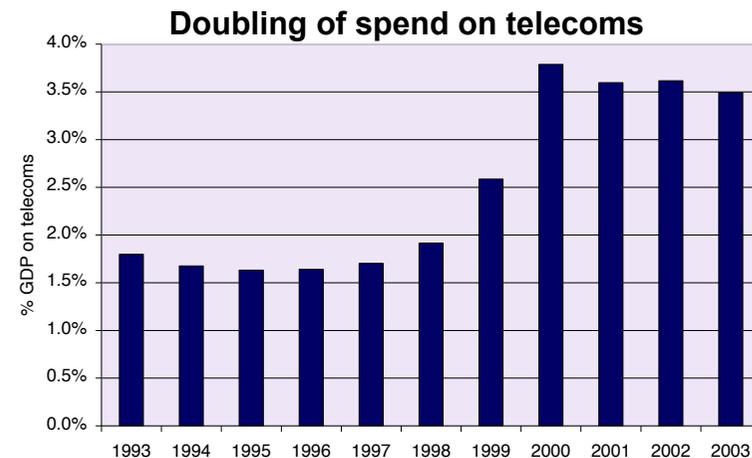
Supporting evidence/argument

- Many OECD studies
- The only way for operators to maintain profits as prices fall
- Or customers go elsewhere
- The behaviour of the competitive mobile industry eg prepay
- Or new entrants cream skim the high profit market segments
- See next slide

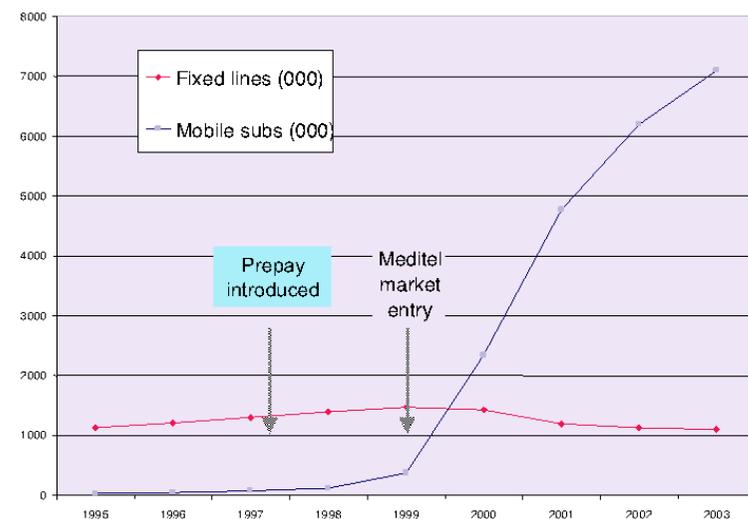
- These benefits appear to apply to a wide range of countries - rich and poor, large and small

Competition leads to market growth

- **Theory** - competition leads to a more responsive industry supplying services which better meet people's needs. So the market grows
- **Practice** - the introduction of competing mobile operators lead to a doubling of spend on telecoms in Botswana
- This could be the effect of introducing mobile services rather than competition
- But the example of Morocco suggests otherwise



It takes competition to make mobile markets grow



The potential costs of further liberalisation

Potential cost

Liberalisation leads to duplicated investment with lower economies of scale, wasted investment and excess capacity

Liberalisation will lead to lower privatisation value for BTC

Liberalisation could frustrate Government's ICT policy

Full and immediate liberalisation would undermine financial viability of BTC

Liberalisation will increase the BTA's workload in the short term

Comment

Important when considering licensing of third MNO and liberalisation of international facilities

But delayed liberalisation means even bigger losses for Botswana

Need well designed subsidy schemes to overcome

Need to stage liberalisation to stop this happening

Not a significant effect in an industry generating revenues of Pula 1.2 bn per year

The costs of liberalisation can be minimised so that the net benefits are substantial

The issue is not ***whether*** Botswana should liberalise fully but ***how and how quickly***

The challenge of rural access

To create in Botswana
“...a globally competitive knowledge
and information society...through the
effective use of information and
communications technology”

- To enable an environment for the growth of ICT
- To provide universal access to information and communications - with an Internet point in every village
- To make Botswana into a regional ICT hub

- How can we ensure that liberalisation of the telecommunications industry will help Botswana achieve this goal?

The impact of further liberalisation - downside

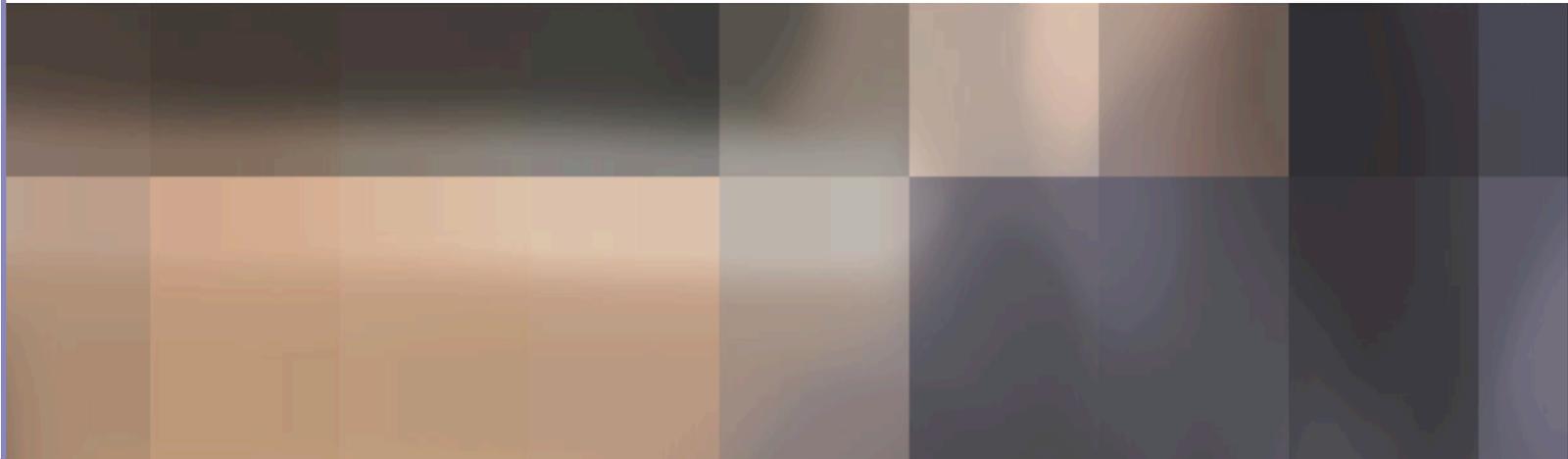
- Universal access requires telecoms operators to provide service:
 - in the areas which are high cost to serve
 - to the people who are least able to pay
- Competitive, profit maximising, operators and service providers will not do this voluntarily
- Liberalisation requires BTC to rebalance its line rentals to cost. This means significant price increases

The impact of further liberalisation - upside

- Other countries in Latin America(eg Peru and Mexico) have faced these problems and found that liberalisation:
 - leads to lower prices and better price packages for those on low incomes
 - stimulates and grows the market - so there are more revenues from which to fund universal access
 - means that operators compete to provide services in rural areas and so provide it more cost effectively
- Entry by new fixed wireless access operators should lead to more cost effective provision of Internet access (combined with voice) in the towns of Botswana
- On balance we believe that liberalisation helps make progress towards universal access

Our proposal for meeting this challenge

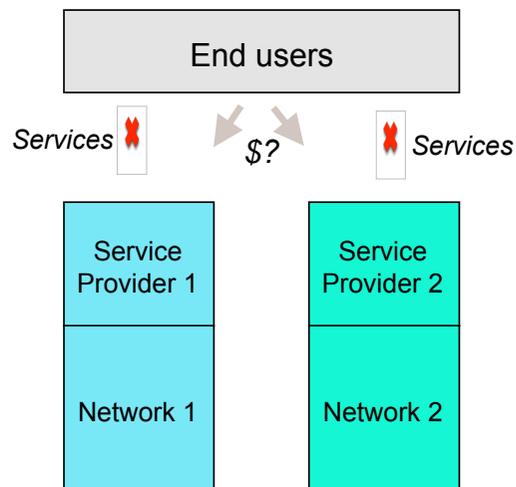
- The Government should adopt recent BTA proposals to:
 - establish a USF to which all service providers contribute equitably
 - set universal access goals and to define projects to meet these goals
 - invite competitive bids for each project at lowest subsidy
- The Government and BTA should set target and define funding mechanisms
- The Government should provide safeguards to limit contributions to the USF so as not to deter would be investors in the industry



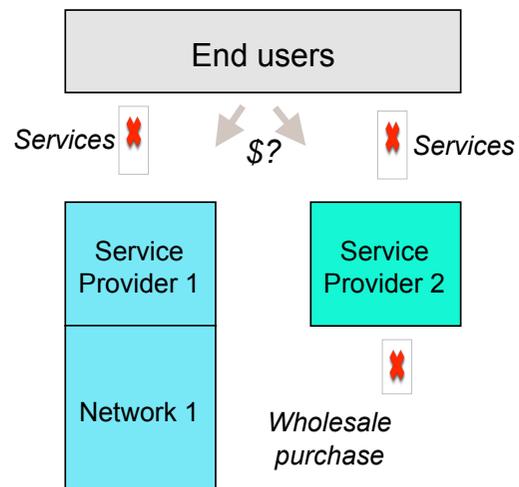
Infrastructure vs service based competition

Infrastructure vs service based competition - 1

Infrastructure based competition (IBC)



Service based competition (SBC)



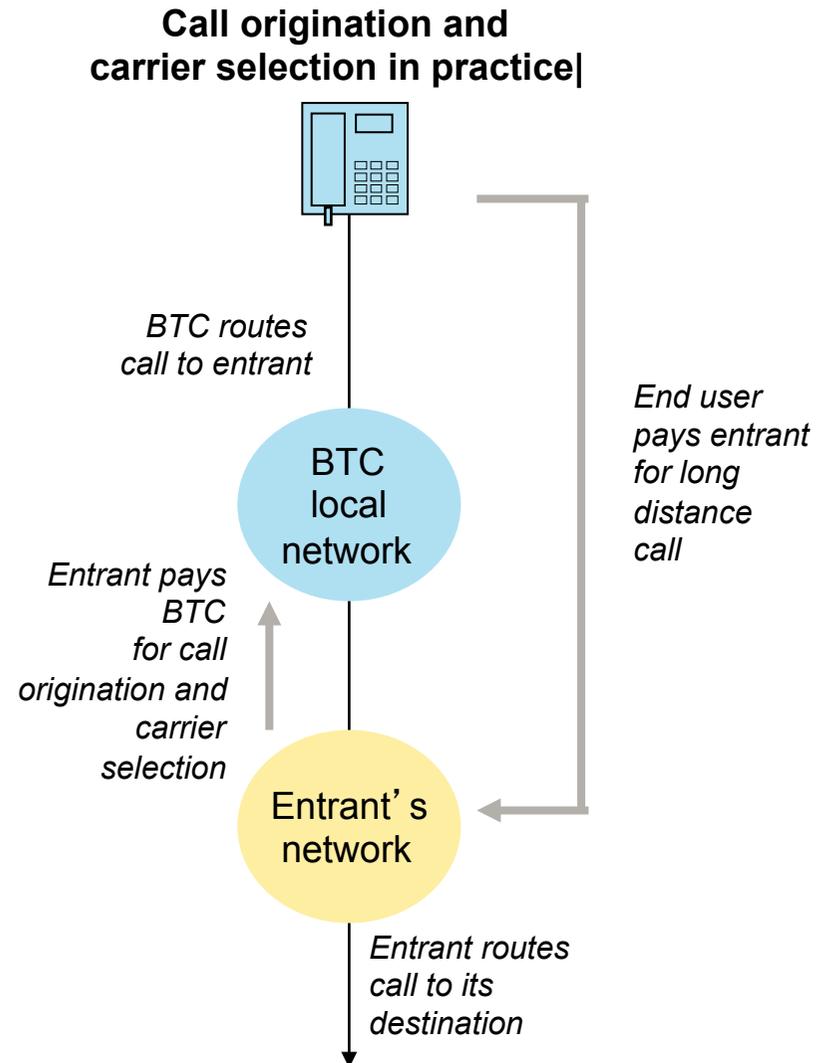
Infrastructure based competition (IBC) is superior where it is viable

<i>Form of competition</i>	<i>Service based</i>	<i>Infrastructure based</i>
Retail price	Yes	Yes
Customer service	Yes	Yes
Price innovation	Limited	Yes
Product differentiation	No	Yes
Technology innovation	No	Yes
Network cost efficiency	No	Yes

The policy choice for Botswana

- IBC is superior to SBC where it is viable
- But we do not yet know where IBC will flourish in Botswana
- Botswana could introduce measures **now** to promote SBC eg
 - require BTC to offer call origination and carrier selection services to entrants
- But such measures would tend to undermine the case for entrants building infrastructure and the development of IBC
 - why make risky investment in infrastructure when you can profitably resell services from the incumbent?

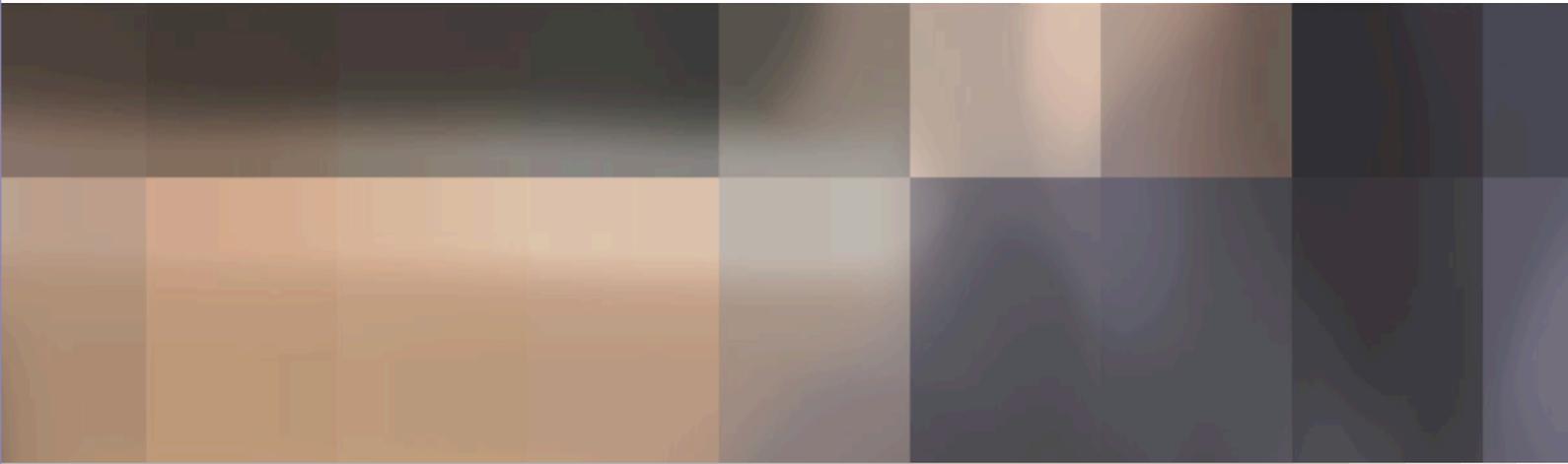
▪ So what should Botswana do?



The Ovum proposal

The proposed solution

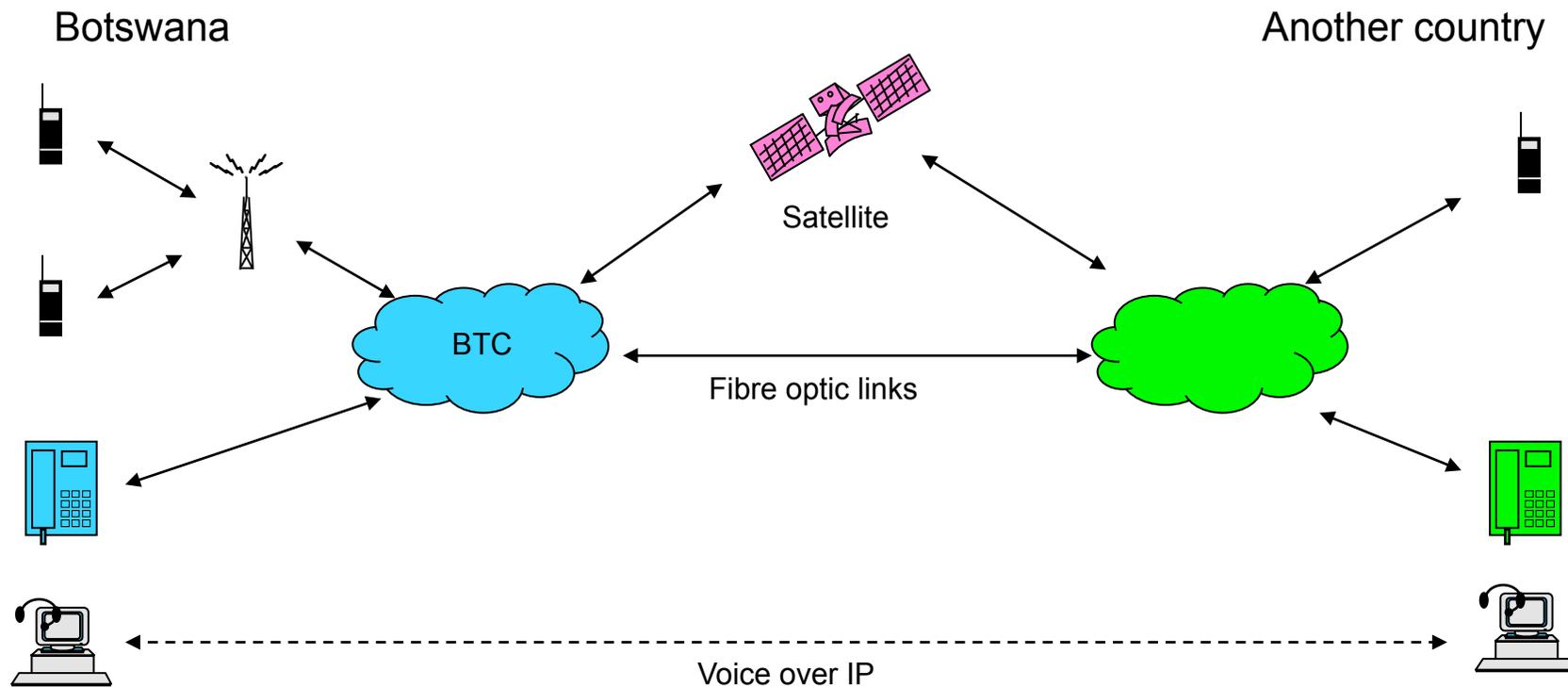
- follow a policy of IBC for the next three years
 - liberalise as fast as is practical
 - confine resale obligations on BTC to non replicable network assets (eg no LLU or carrier selection obligations)
 - monitor developments
 - review in three years to see if policy is working
- This proposal is consistent with ERG guidance on EU regulation - to foster IBC wherever possible
 - It commands the support of all major stakeholders in Botswana
 - It should maximise long term benefits:
 - if IBC works Botswana enjoys strong and deep competition
 - if it fails service based competition has been delayed by three years



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Ovum's proposals on international voice services

International voice facilities today



For outgoing calls BTC receives about 90% of retail rate charged by mobile operators, and pays out a settlement rate to the terminating operator in the other country

For incoming calls BTC receives a settlement rate from the originating operator in the other country, and pays a termination rate to the mobile operators

BTC is investing heavily in additional international fibre links

International liberalisation

- **Key issues**

- complaints about quality of service for inbound and outbound calls
- call prices higher than cost
- illegal use of VoIP
- limited and expensive global Internet connectivity

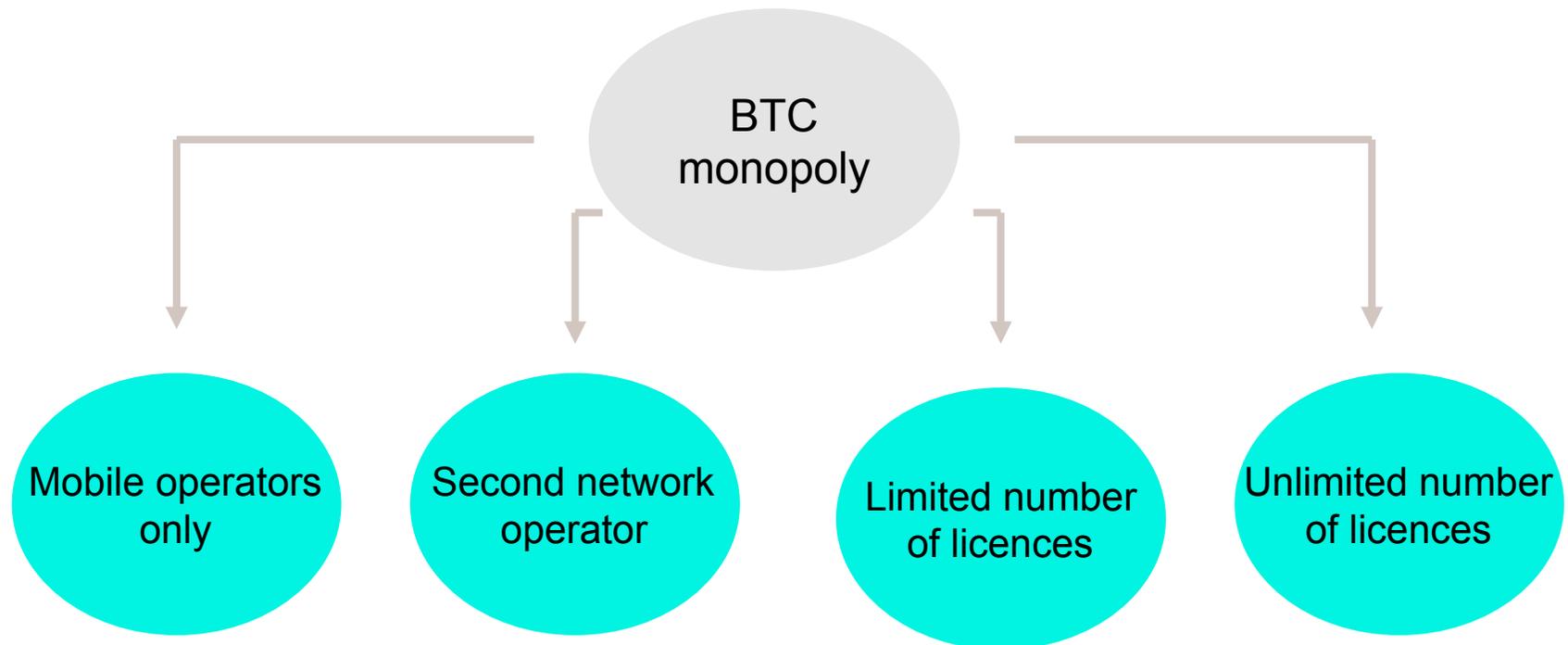
- **Benefits of liberalisation**

- lower prices for fixed and mobile customers
- Botswana becomes a cheaper place to do business
- Botswana retains competitiveness with South Africa
- better quality of service

- ***But***

- rebalancing issues
- loss of economies of scale and buying power in international facilities

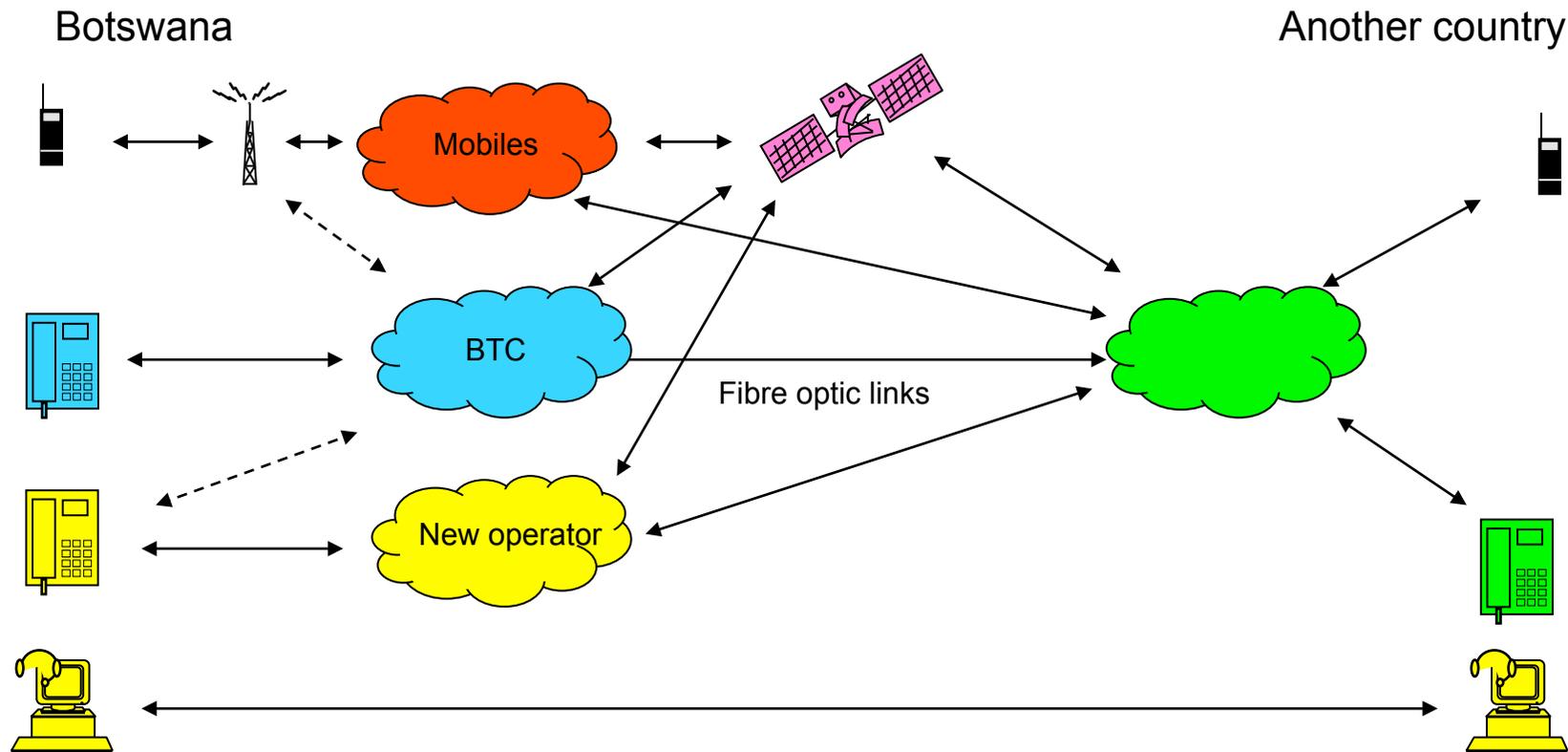
Options



Assessment

- **Option 1:** Issue international licences to mobile operators
 - may simply result in increased profits for operators
 - increase in unit costs if mobile operators use satellite links
 - limited effect on call prices in fixed market and no impact on internet facilities
- **Option 2:** Issue licence to SNO
 - danger of cosy duopoly
 - not consistent with proposals for national liberalisation
- **Option 3:** Limited number of international licences
 - better to let market decide how many and which operators should enter market
- **Option 4:** Full liberalisation
 - will solve prices and QoS issues
 - issues of rebalancing and fragmented supply remain
- **Recommendation** - BTA should issue unlimited number of international licences and lift ban on VoIP once BTC has had opportunity to rebalance further

International voice facilities in the future



In a liberalised environment the mobile operators will be free to provide their own international facilities

ISPs will be able to provide VoIP services and their own international facilities

New operators can provide international services to their customers

New operators may provide international facilities to mobile operators and the ISPs

Rebalancing issues

	Retail prices before 2003	Retail prices before October 2004	Retail prices after October 2004	Comparable prices in RSA
Line rentals per month (residential)	16.00	20.80	24.96	56
Line rentals per month (business)	19.00	28.50	39.90	75
Local calls (peak) per minute	0.10	0.13	0.17	0.27
“Within” calls (peak) per minute	0.38	0.34	0.34	
“Between” calls (peak) per minute	0.94	0.85	0.81	0.73

- Under “profit neutral” rebalancing:
 - line rentals will need to rise substantially
 - long distance and international prices will fall

Further rebalancing – key issues

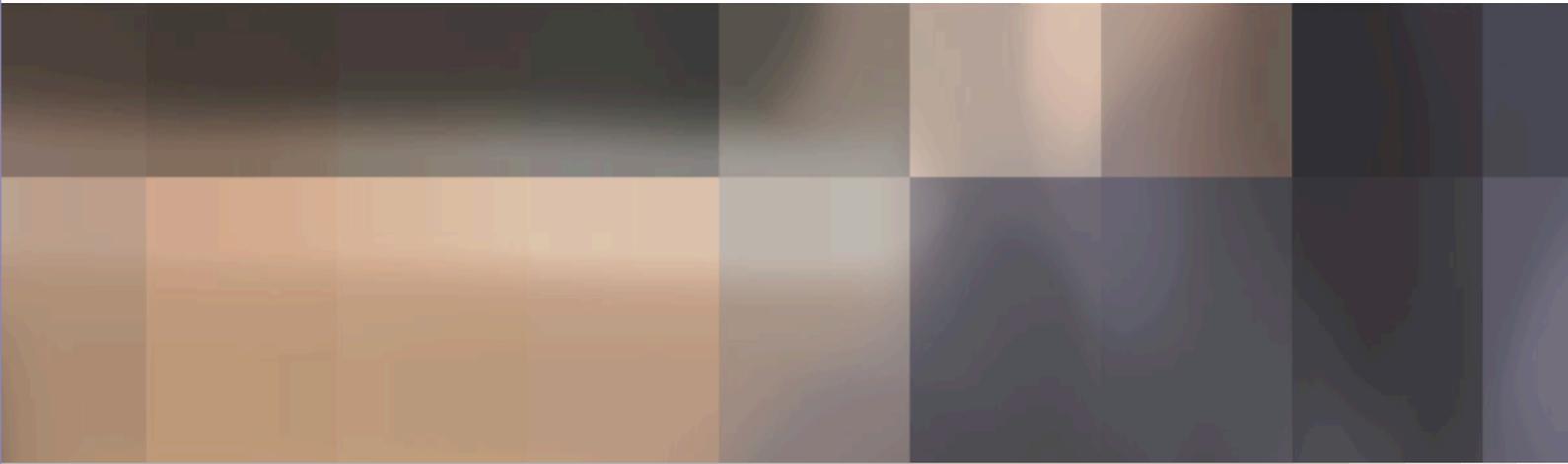
- Liberalisation **before** further rebalancing will have serious effect on BTC
- BTC will undertake “profit neutral” rebalancing, but this will affect some customers more than others
- Almost all fixed customers have access to telephony via mobile phones - so line rental increases should not lead to fewer telephone users
- BTC asked for three year rebalancing period - but should liberalisation proceed at BTC’ s pace?
- BTA does not have powers to control international prices

Further rebalancing - proposals

- BTA should allow BTC a three year period for further rebalancing
- BTA permits BTC to increase local service prices provided that
 - rebalancing is profit neutral
 - local service prices do not rise above efficient costs
- BTA specifies more rapid programme of liberalisation, eg
 - fixed national services by Sep 2005
 - fixed international services by June 2006
- Precise dates for rebalancing to be agreed between BTA and BTC based on results of Analysys study
- **Recommendation** - BTA should agree a programme of further rebalancing with BTC

International facilities

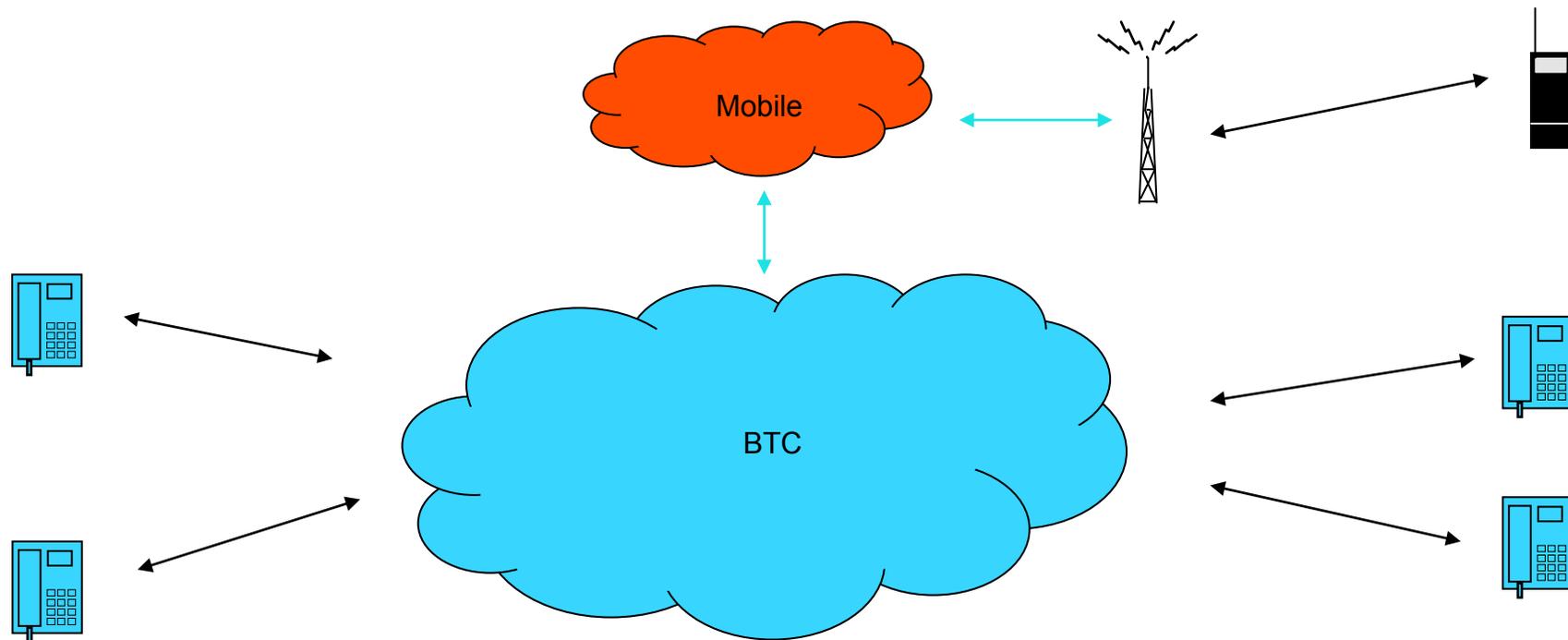
- Key issue
 - liberalisation will lead to more suppliers with higher unit costs and less bargaining power
- Options
 - set up separate organisation to buy international capacity and sell it to operators
 - prices based on cost with agreed QoS
 - organisation co-owned by operators
 - BTC facilities should be included
 - BTC international wholesale arm subject to accounting separation
 - non-discrimination between BTC retail and other operators
 - prices cost based
- **Recommendation**
 - MCST should implement first option; if this cannot be adopted in time for international liberalisation, it should implement the second option as well



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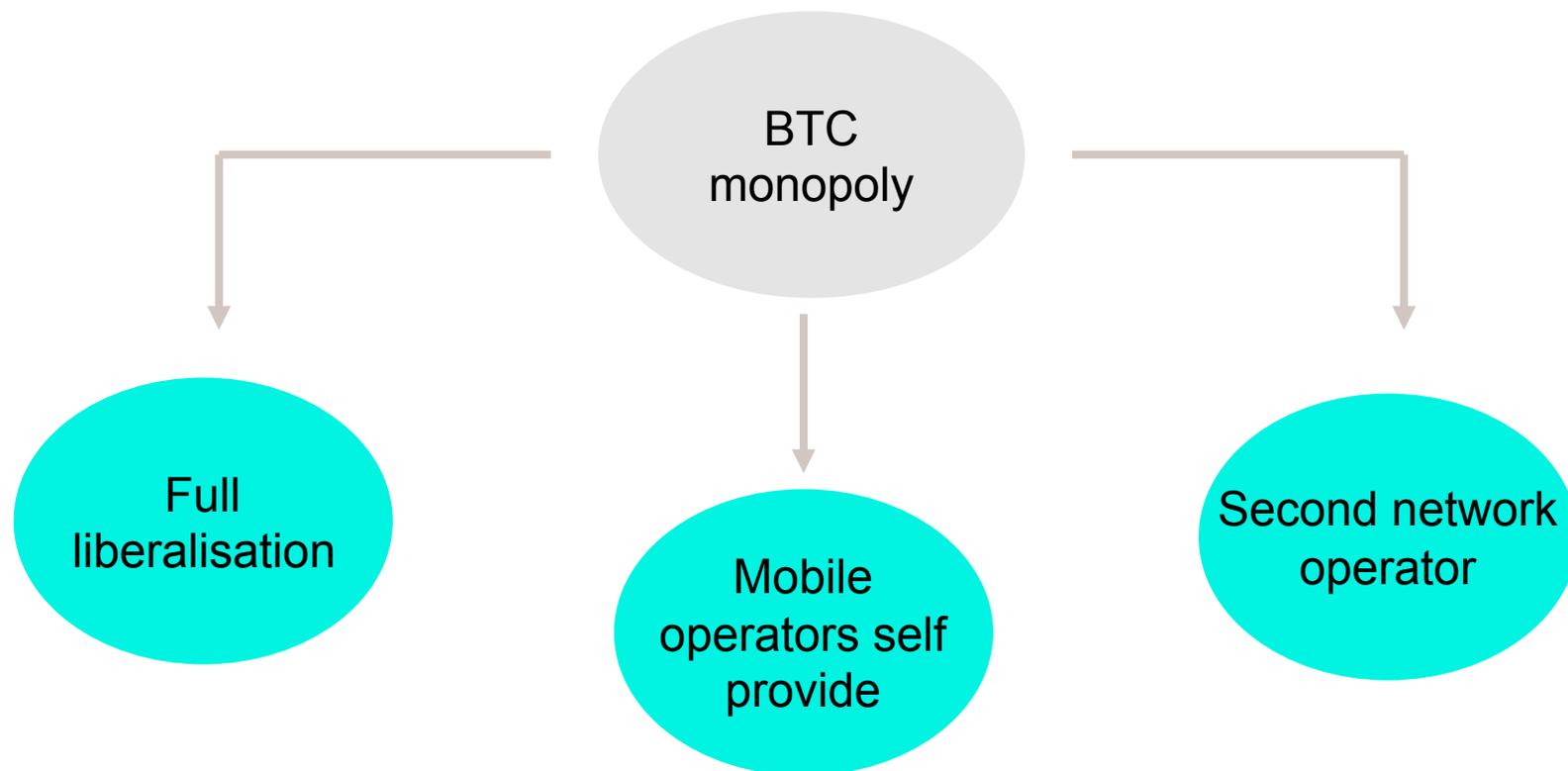
Ovum's proposals on national fixed voice markets

National fixed voice services today



- Transmission links of mobile operators supplied by BTC
- Mobile operators own and operate the rest of their network
- Only BTC can supply fixed voice telephony services to end users

Options for national licences



Assessment

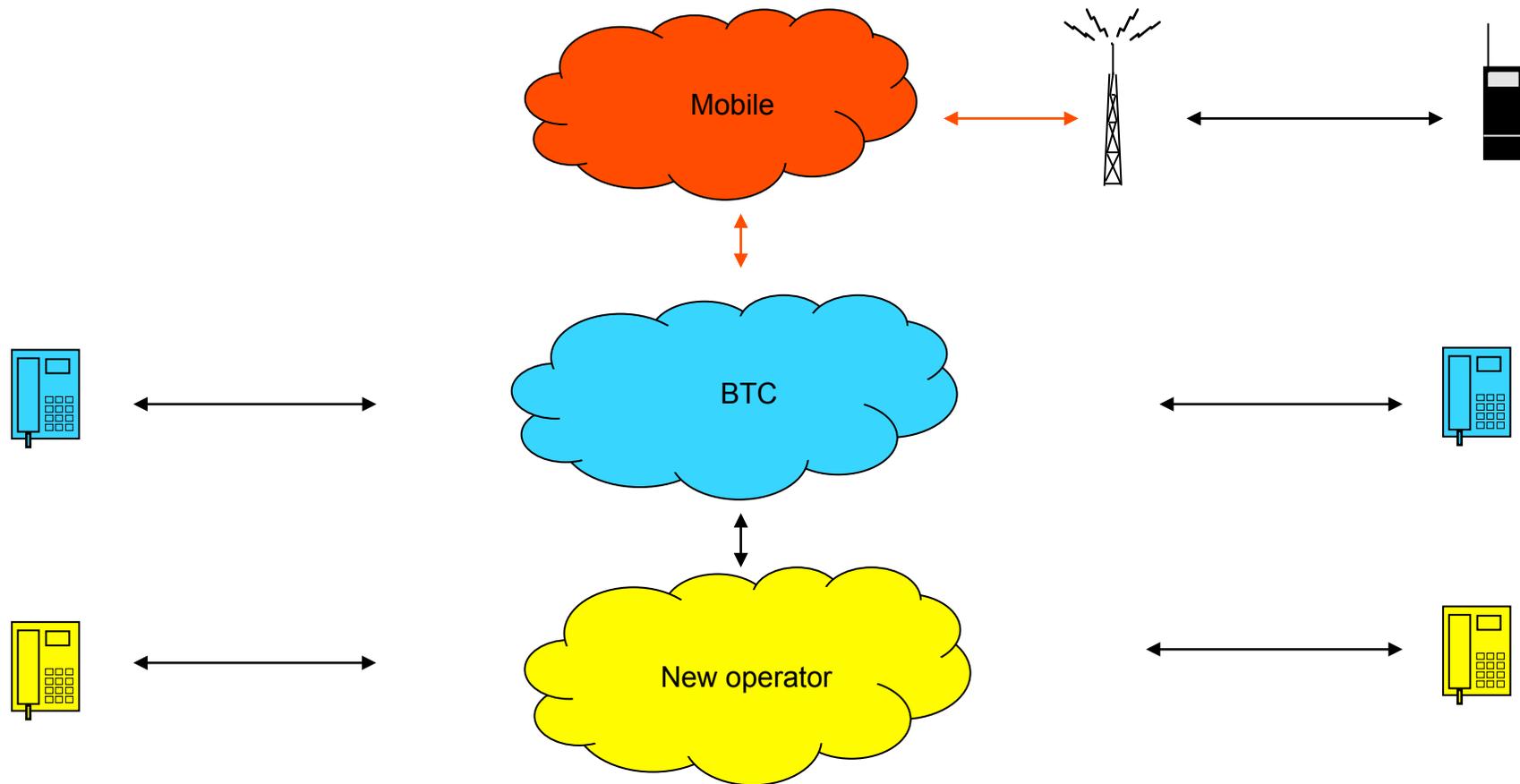
- **Option 1** - full liberalisation
 - will give customers new services, better prices and more choice
 - will make BTC more efficient and responsive
 - will grow the fixed market
 - telecoms assets of utility companies are better utilised
 - will support ISPs and data providers who can add voice to their services
 - will make Botswana businesses more competitive
 - BUT will erode BTC's profitability
 - may result in "wasted" infrastructure build

- **Option 2** - mobile operators provide own infrastructure for mobile but not fixed services
 - costs reduced, may be passed on as lower prices
 - QoS should improve
 - first step in liberalisation

Assessment

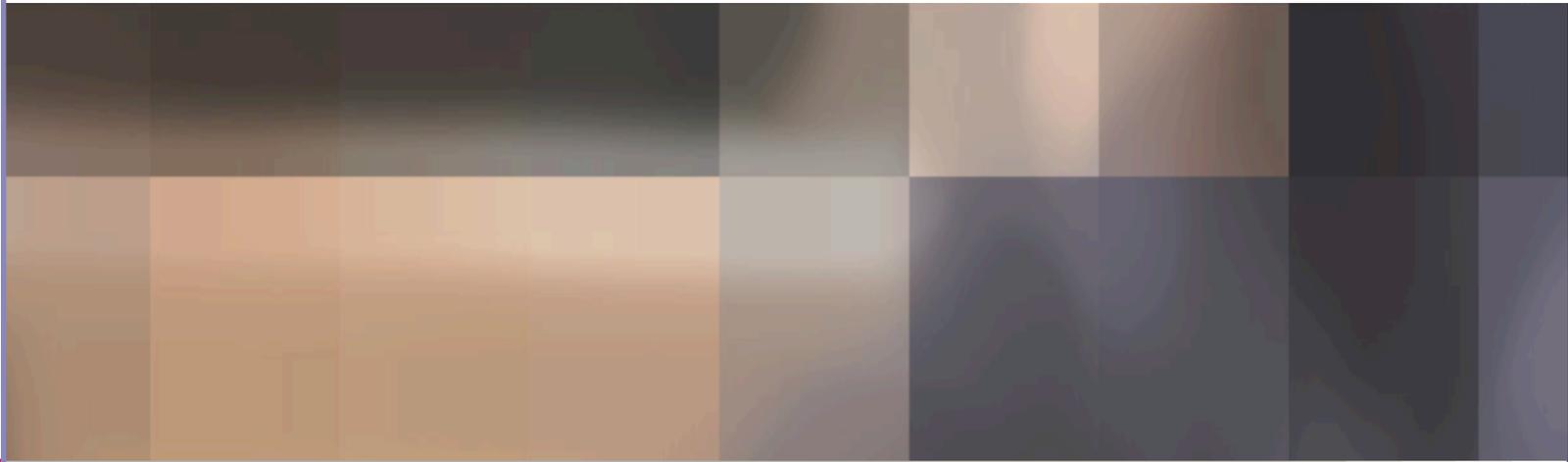
- **Option 3 - Second network operator**
 - BTA can set roll out targets to extend penetration
 - SNO would have better economies of scale
 - BUT SNOs have limited effect on increasing competition
 - BTA will have to pick the “winner”
 - Experience in South Africa how difficult this can be
- **Recommendation**
 - BTA should permit mobile operators to self provide, and issue unlimited number of licences during rebalancing programme

National fixed voice services in the future



Mobile operators will be able to provide their own transmission links

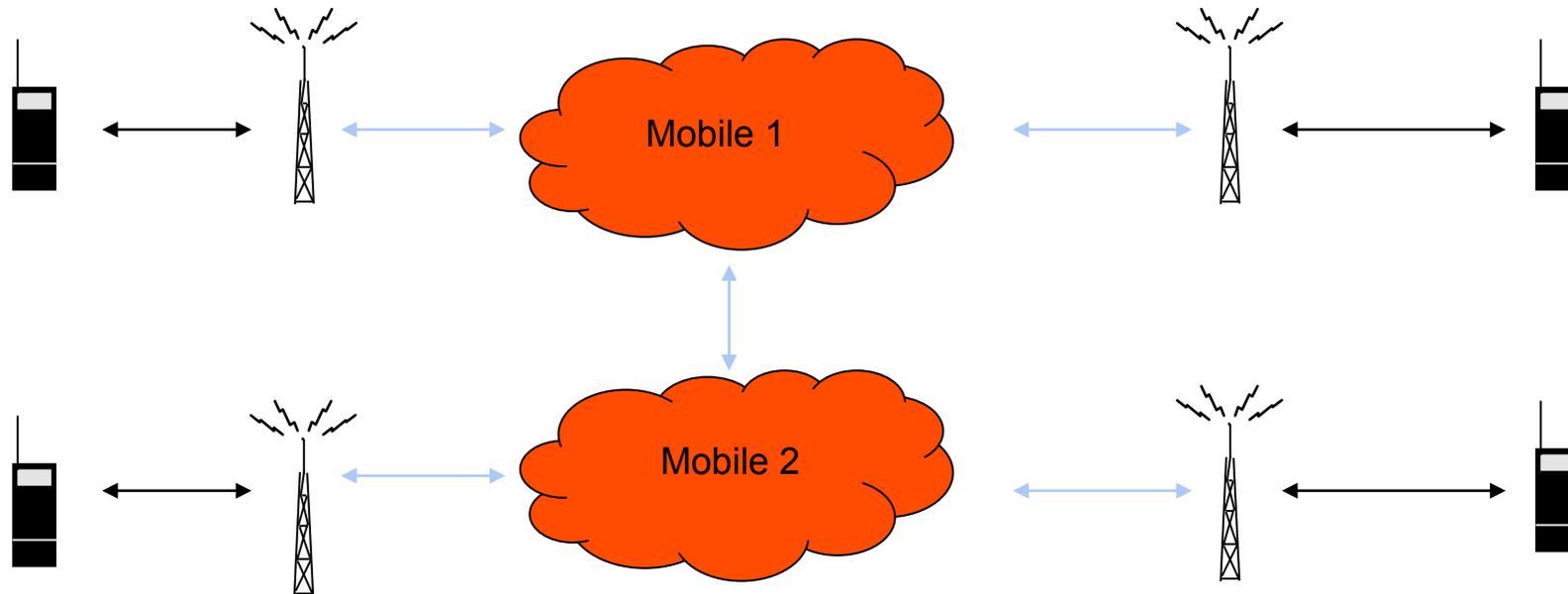
New operators will build their own networks and interconnect with BTC and the mobile operators



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Ovum's proposals on mobile licensing

Mobile networks today

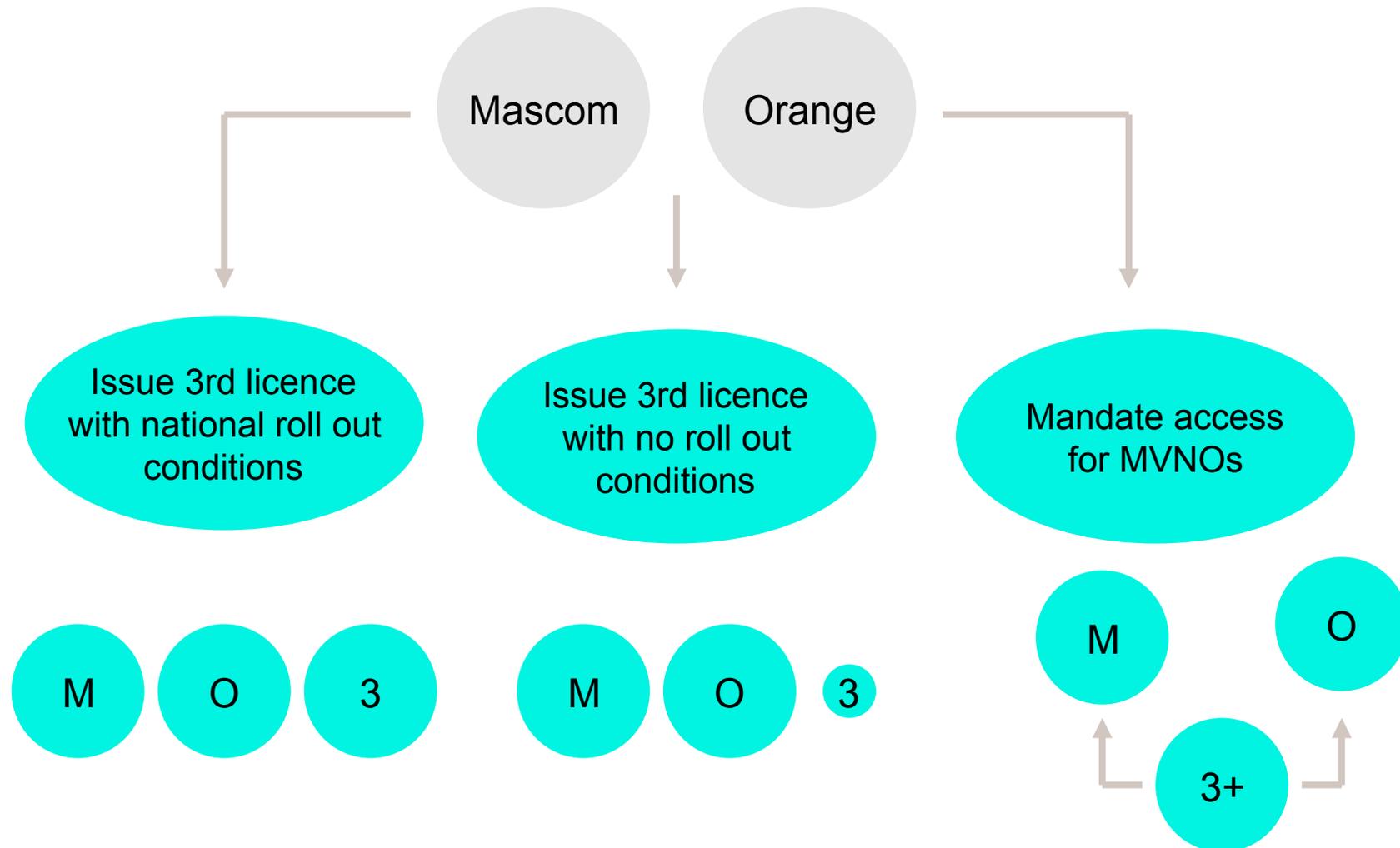


BTC provides transmission links

Mobile services

- Key issues
 - is there room for a third operator?
 - how to maximise competition between BTC, Mascom and Orange?
- Market potential
 - both operators generate good returns
 - market may expand to 800,000 to 950,000 subscribers - 50% increase
 - BUT no similar country to Botswana has a third operator
 - some late entrants struggle to succeed
 - additional customers generate marginal profits
 - future demand for third national mobile operator is doubtful
- Competition for converged services in the mobile sector
 - Mascom and Orange will be able to offer combined fixed-mobile packages to corporate customers. If BTC cannot do likewise
 - competition in corporate market not optimal
 - threat to BTC viability

Options



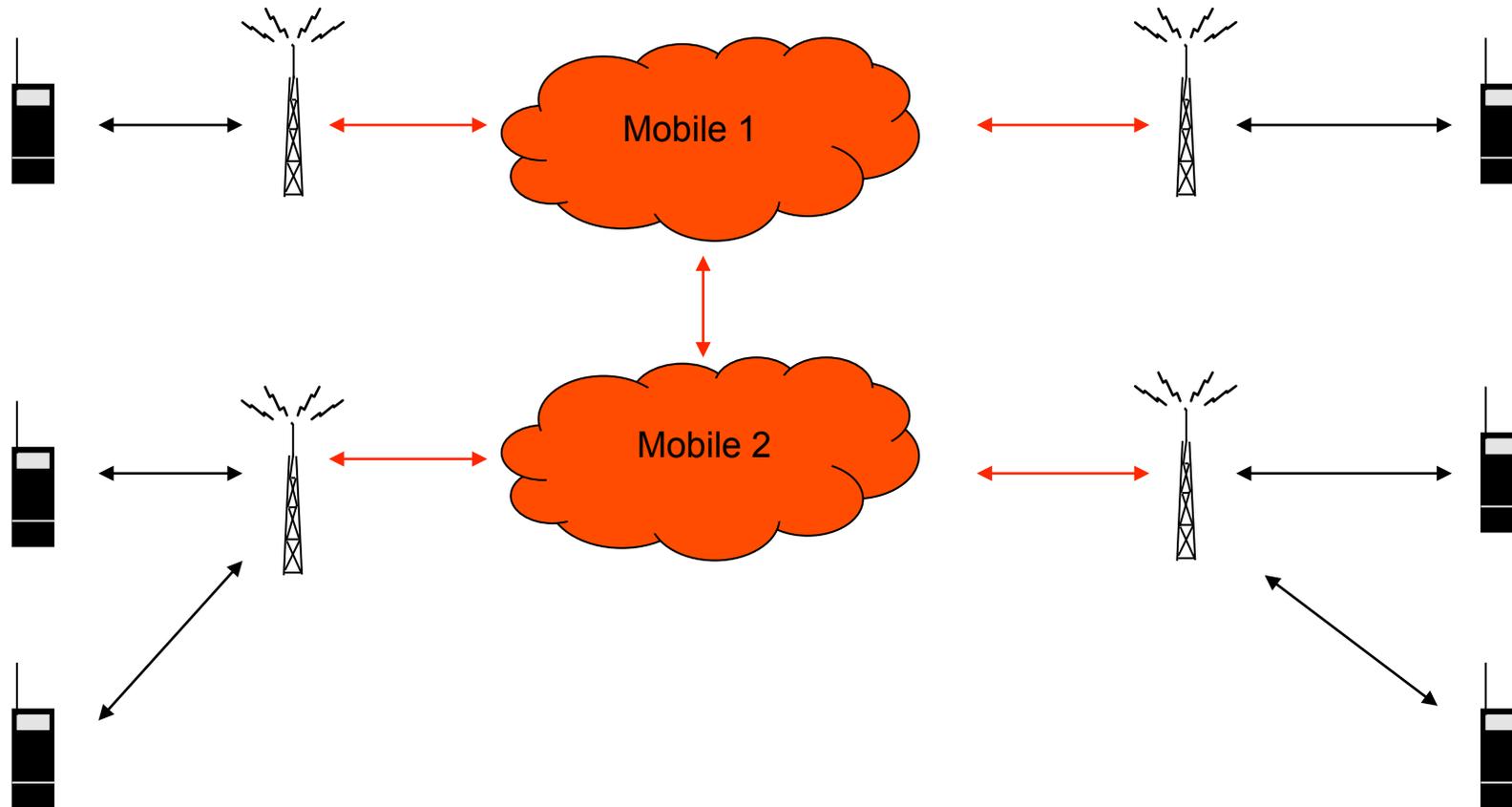
Options for mobile services

- **Option 1** - issue third mobile licence with national roll out conditions
 - maximises infrastructure competition
 - will result in lower prices and a larger market
 - BUT substantial sunk investment before limits on market demand become clear
 - so may damage margins and investment prospects for existing operators
 - as demand is uncertain, high risk strategy
- **Option 2** - issue third mobile licence with no roll out conditions
 - focus on geographic or niche markets
 - result in lower prices for specific markets
 - would not allow BTC to serve corporate market which requires national coverage
 - impact on other operators not clear
- **Option 3** - mandate MVNO access
 - introduces service based competition, but not infrastructure level competition so second best
 - maximises competition in corporate market
 - more acceptable to stakeholders

Way ahead for mobile services

- **Recommendation**
 - BTA should mandate MVNO access, and allow operators to negotiate arrangements
 - BTA should not licence a third mobile operator with national roll out conditions
 - BTA should consider issuing a ITT for a third licence
- If BTA issues a third licence
 - use a competitive bidding process
 - seek bids on a technology neutral basis
 - if BTC wins licence, it should establish a legally separate mobile arm (as required by BTC Act)
- 3G data service
 - BTC indicated interest in a 3G data and fixed rural voice licence
 - provided that spectrum for future 3G services is not sterilised and use is limited, BTA should consult on proposal
- Public Mobile Radio licences
 - BTA should issue PMR licences

Mobile networks in the future

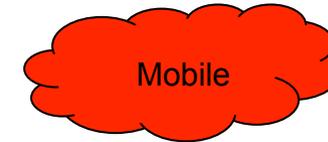
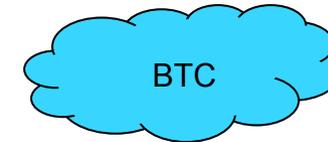
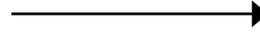
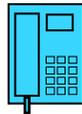


A MVNO would provide its own customer service and marketing, but use another mobile operator's network on a wholesale basis

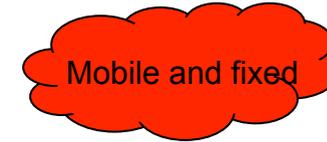
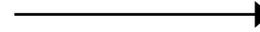
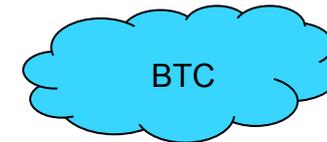
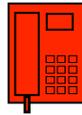
A third operator may provide its own network in addition, depending on demand and BTA's decisions

Competition for convergent services

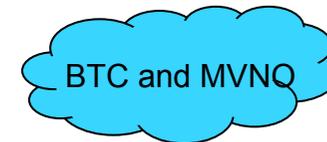
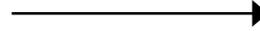
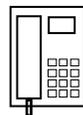
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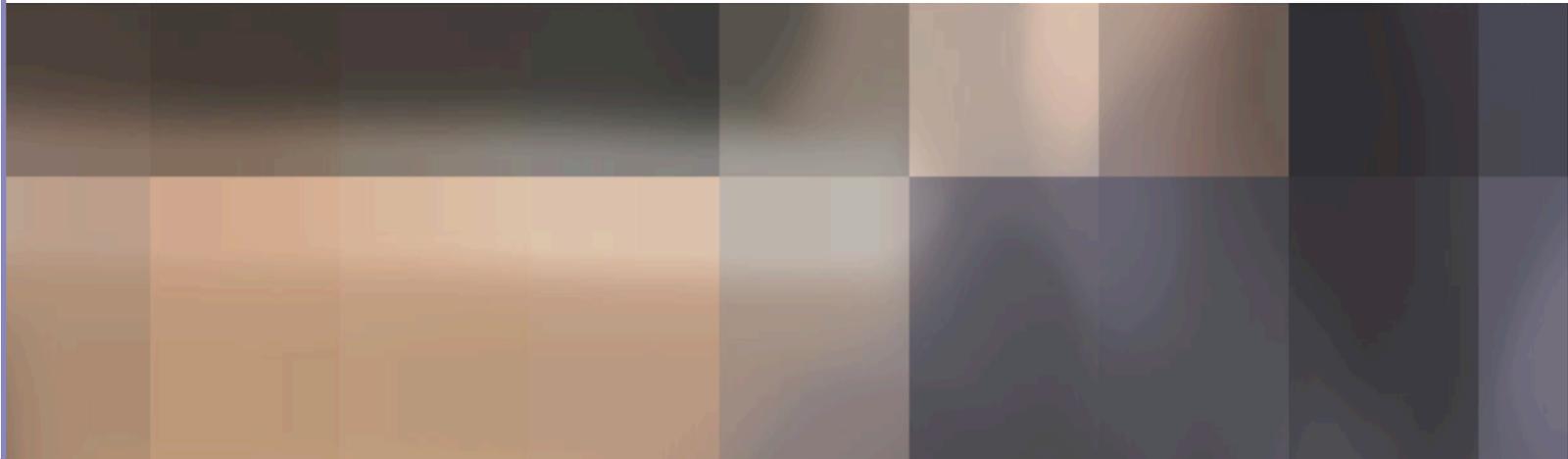


Tomorrow with fixed network liberalisation



Tomorrow with fixed network liberalisation and MVNO





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Time for discussion!