

Regulation and Procedures of Interconnection

**ITU Workshop on Interconnection
Sanya City, China, 17-19 August 2001**

David N. Townsend
DNTA
DNT@dntownsend.com

Types and categories of interconnection

Fixed network to fixed network:

- neighboring networks (no competition)
- local to long distance/international
- competing basic networks

Fixed to mobile

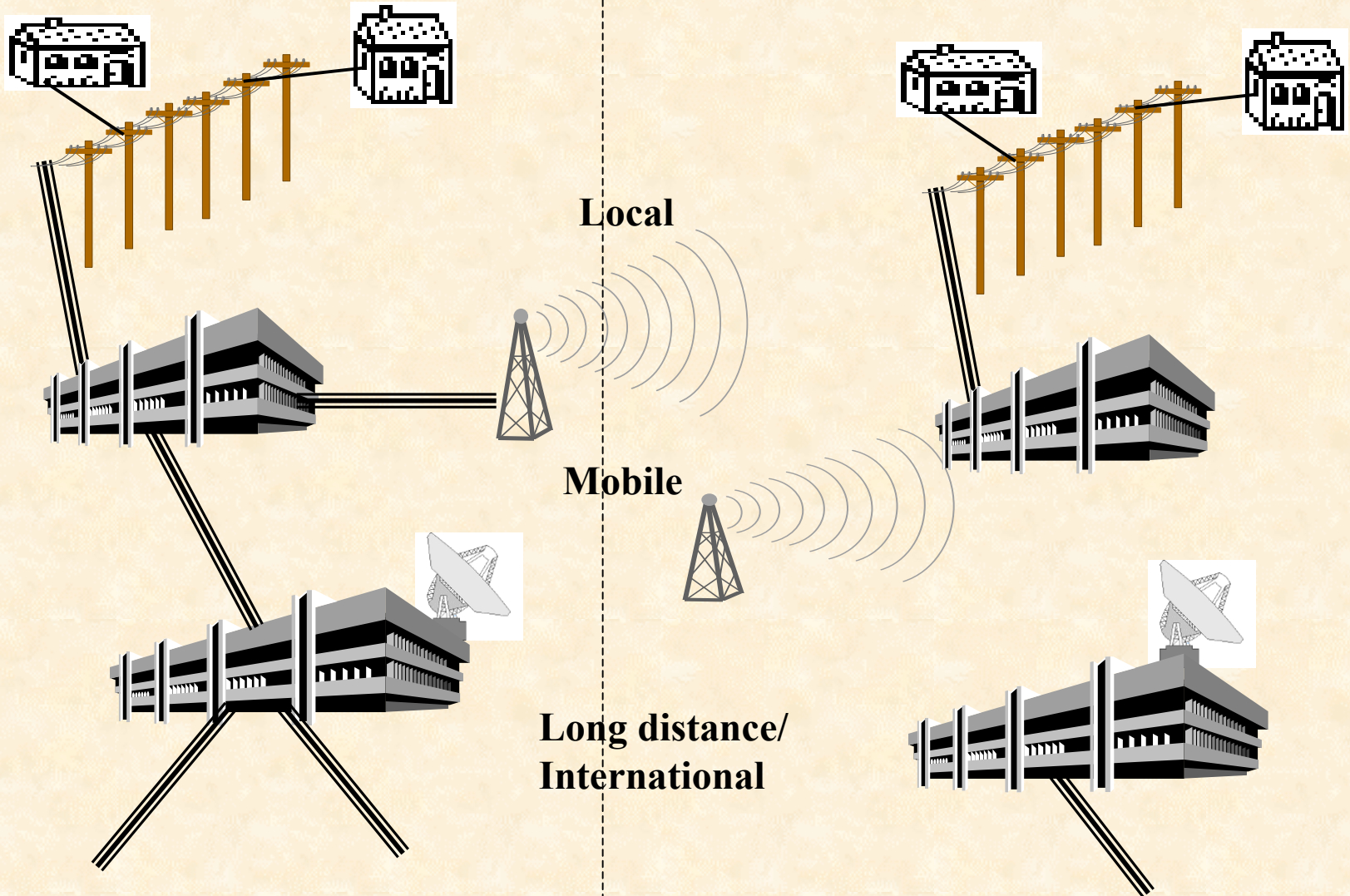
Mobile to mobile

Others: public telephones, paging, data networks

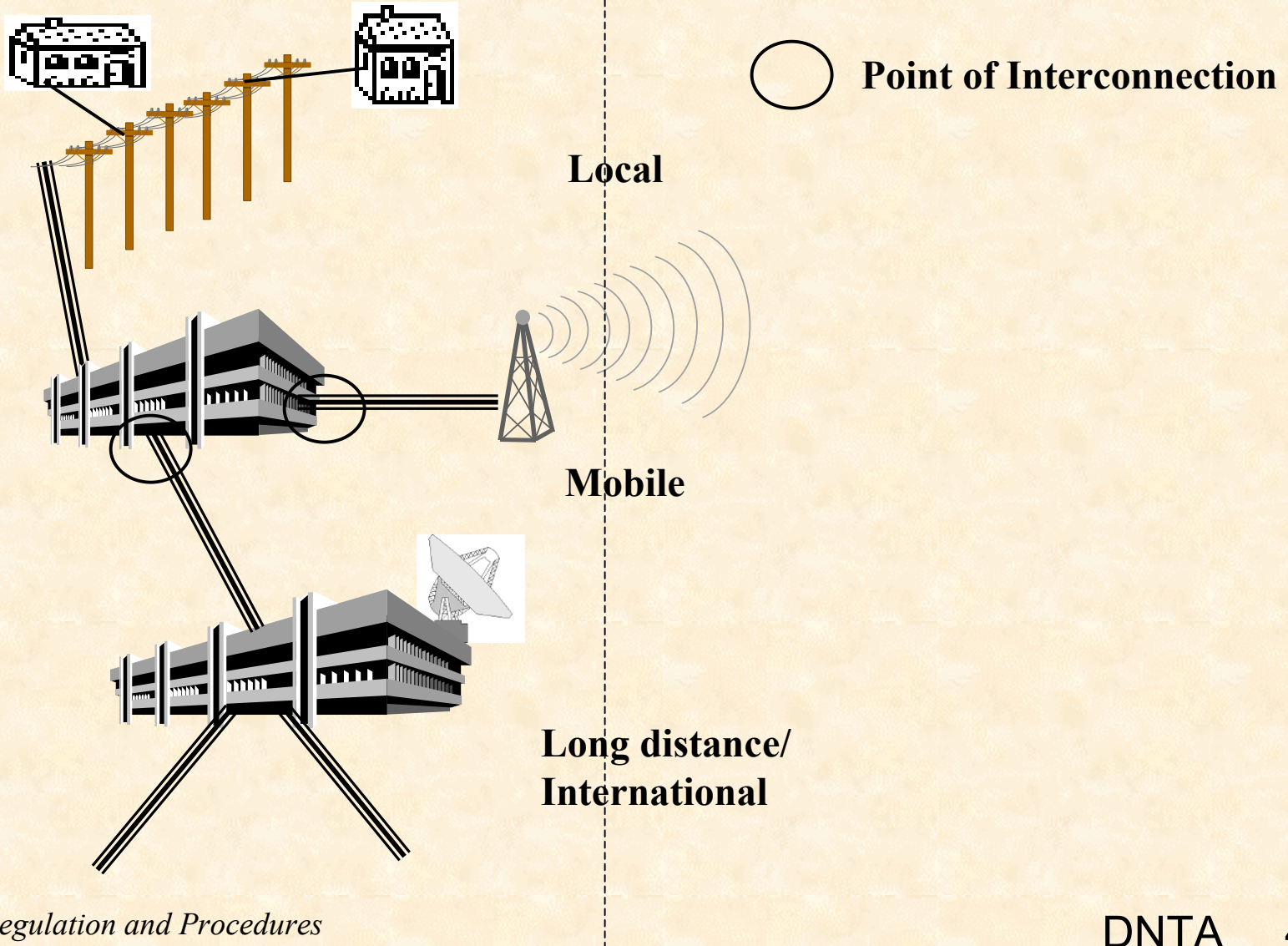
And: combinations of all of the above

Dominant National Operator (integrated)

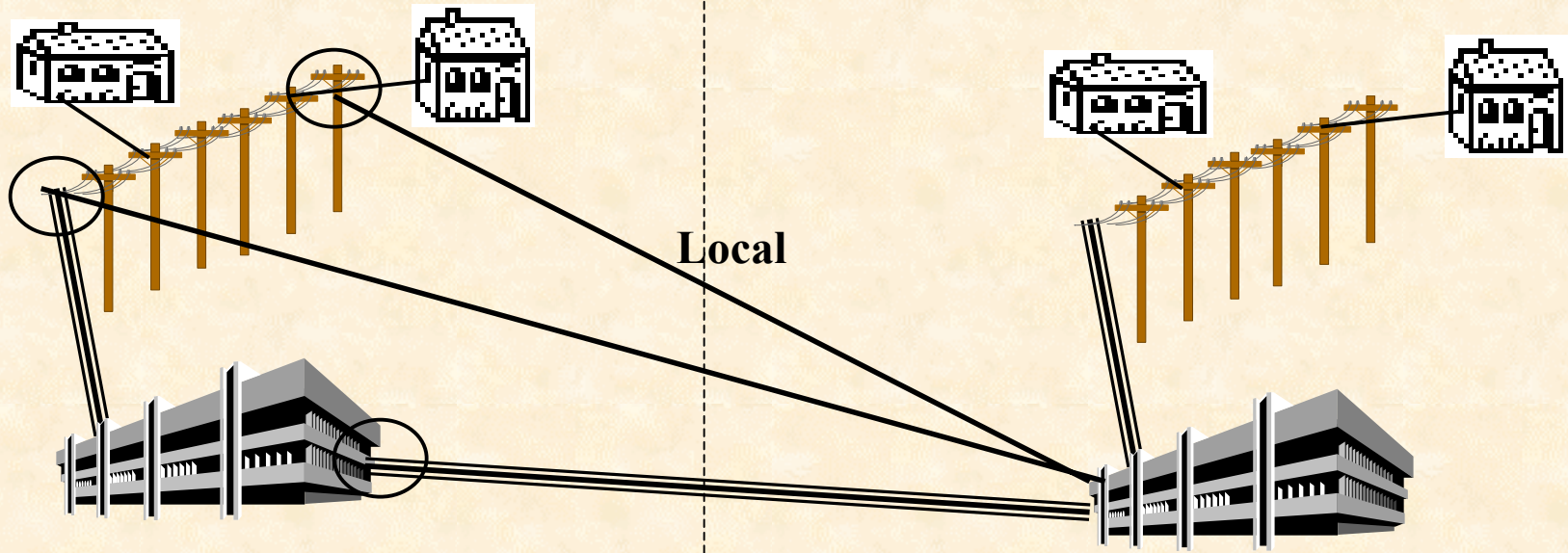
Competitors (separate)



Interconnecting separate, non-competing networks



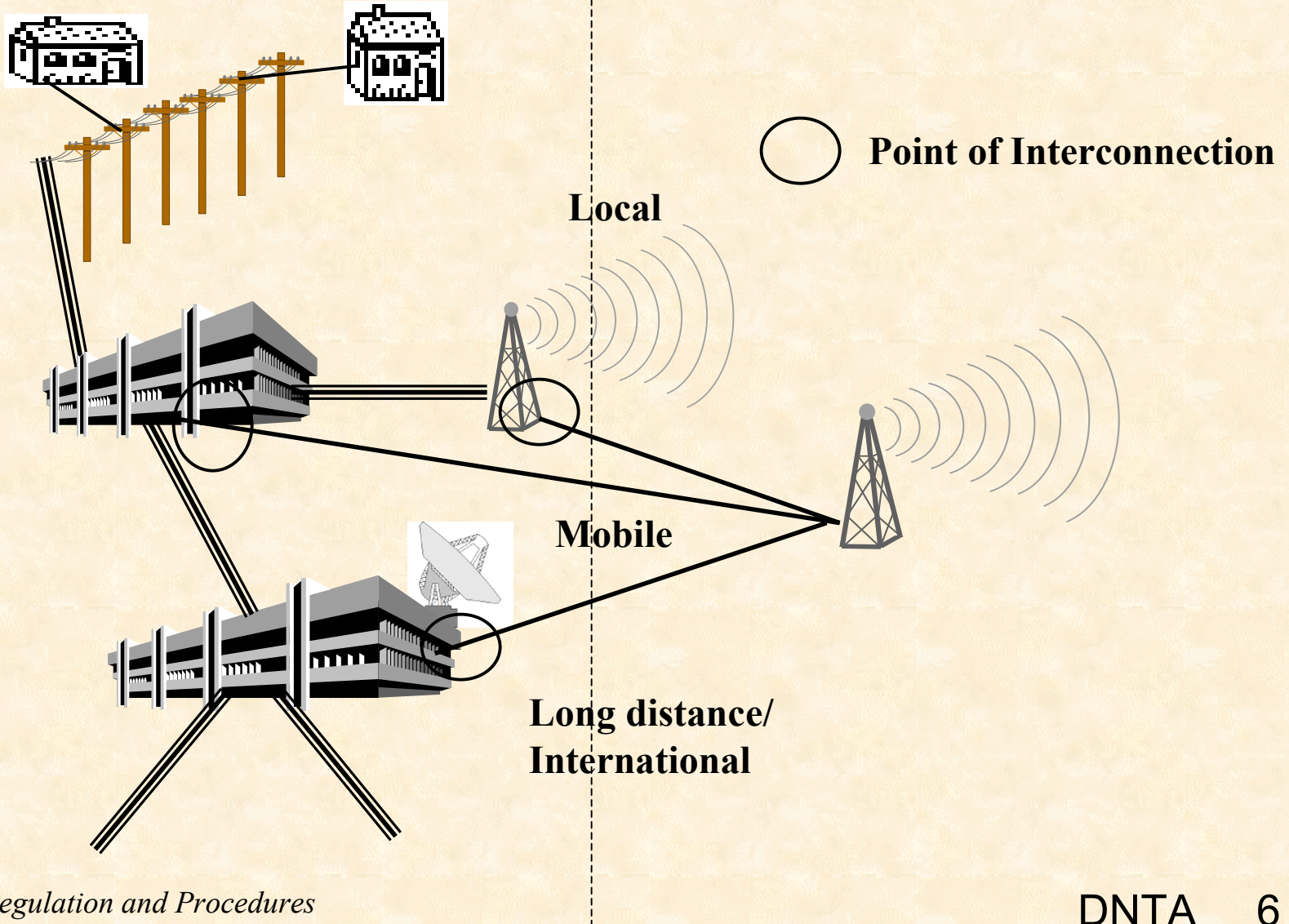
Interconnecting local networks (competing or separate)



○ Point of Interconnection

Interconnecting competing mobile network

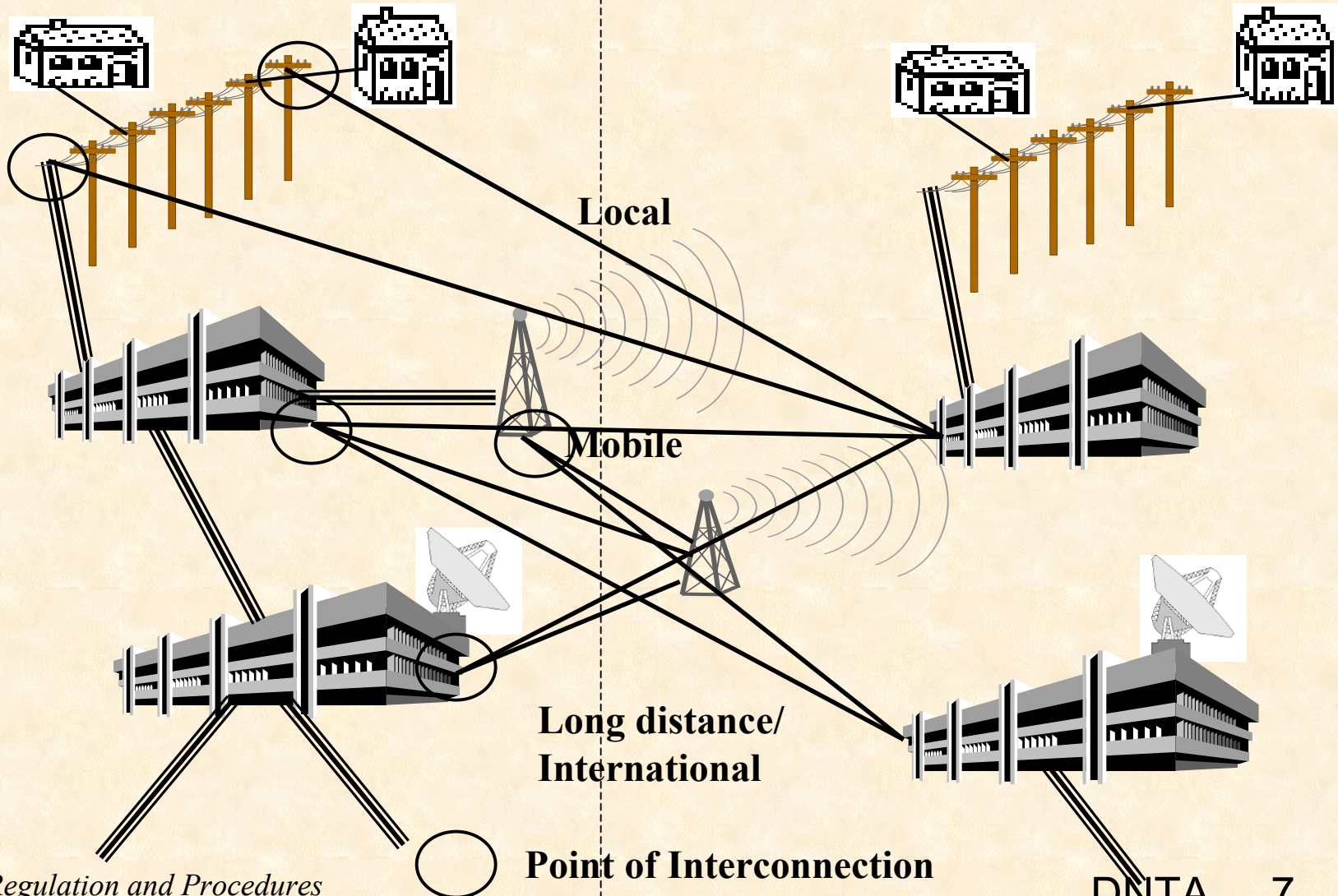
Dominant National Operator (integrated)



Interconnection with full market competition

Dominant National Operator (integrated)

Competitors (separate)



Regulation and Procedures of Interconnection

Point of Interconnection

Incentives for interconnection

Non-competing networks:

- Mutual traffic increases, higher revenues from maximum interconnection
- However, balance of payments will affect profitability; technical standards could affect costs
- “Bottleneck” access networks have more bargaining power, can potentially negotiate more favorable deals

Incentives for interconnection

Competing networks:

- Dominant national operators have little incentive to promote effective interconnection of competitors: they could lose traffic, revenues
- Smaller, new competitors need interconnection with the incumbent to be viable in the market
- In some cases, competition might increase overall network demand, creating some incentive for dominant operator cooperation

Incentives for interconnection

Conclusion:

- Impartial regulatory intervention is usually essential to ensure fair, efficient interconnection
- Negotiations should seek to establish common ground, areas of dispute, relative bargaining strength
- Regulatory role should be based upon national goals and principles, not self-interests of any particular party

Regulatory principles and objectives for interconnection agreements

Basic guiding principles

- Non-discrimination between operators
- Interconnecting parties should generally pay for costs that they “cause”, and should share common costs fairly
- Interconnection should be technically equivalent for all operators, resulting in the same quality of service
- All procedures and vital information should be transparent to all parties
- The main goal of interconnection is to ensure expanded services and economic gains for the entire market

Regulatory principles and objectives for interconnection agreements

WTO Reference Paper requirements

- Interconnection with “major suppliers” at any technically feasible point in the network
- Timely provision of interconnection
- Non-discrimination, transparency
- Unbundled charges for network elements
- Public procedures for obtaining interconnection
- Public release of major or model agreements

Negotiated interconnection agreements

Procedures, steps

- Identify parties to negotiation, personnel and authority level
- Identify schedules and anticipated deadlines
- Address technical and operational issues, such as POI, QoS, billing, data sharing, etc.
- Address cost sharing principles, interconnection charge options
- Each side produces data on costs for other side's review

Negotiated interconnection agreements

Regulator's role

- Establish initial guidelines for agreements, including Reference Interconnection Offers, benchmarks
- Establish clear deadlines, schedules of meetings, milestones and pre-requisites
- Identify criteria for economic, technical terms
- Appoint mediators/arbitrators, to recommend or require compromises on key disagreements
- Determine criteria to undertake formal rulemakings, if necessary

Interconnection dispute resolution

Interpretation of terms and conditions

- Review existing agreement terms, in relation to rules, principles, other agreements
- Obtain and review other documentation supporting interpretation of agreement terms
- Obtain formal arguments and rebuttal from parties, possible public intervention
- Issue rulings based on law, regulatory precedent, principles of fairness and efficiency

Interconnection dispute resolution

Review challenges to a party's actions

- Establish official channels for submitting complaints, and deadlines for regulatory response
- Require submission of evidence of abuses, violations
- Require timely response by accused party, with appropriate evidence
- Compare alleged actions, evidence with interconnection rules and terms
- Conduct hearings, if necessary; issue impartial, transparent rulings

Interconnection dispute resolution

Enforcement powers, sanctions

- Regulator must have unquestioned authority to issue decisions on disputes, and to enforce rulings
- Penalties include rectification of violation, restitution of costs or lost revenues, punitive fines
- In extreme cases, loss or non-renewal of license should be an option
- Rulings should have force of law, subject to court appeal (but appeals should not allow postponement of rulings)

Interconnection dispute resolution

Modification of agreements

- In some cases, existing interconnection agreements, even those negotiated in good faith, should be subject to modification under appeal to regulator
- Changed circumstances, demonstrably unworking arrangements, miscalculations of costs or traffic
- Burden must be on party requesting change to show clear, public evidence of need for modification to agreement

Reference Interconnection Offers

- Prototype interconnection agreements, to serve as models/guidelines for negotiators
- Represent “fall-back position” on various issues, if negotiators fail to reach agreement
- Provide sample terms, conditions, language, formulae, etc., to expedite the process, especially on non-controversial issues
- Once a working, well crafted set of agreements is established, these terms can be publicized as RIOs

Components of interconnection agreements

- Definition of terms, scope of agreement
- Points of interconnection
- Technical description of facilities to be interconnected
- Capacity and traffic volumes anticipated
- Signaling standards and specifications
- Planning requirements for future changes
- Numbering plan
- Procedures for switching customers between carriers

Components of interconnection agreements (cont.)

- Traffic routing and measurement protocols
- Terms for sharing rights of way and facilities
- Provisions for co-location of facilities
- Billing arrangements and procedures for charges between carriers
- Record keeping and customer data sharing requirements
- Quality of service standards, procedures for resolving technical problems
- Specific schedule of rates and charges for traffic, facilities