

# Interconnection Requirements

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## Agenda

- Principles
- Telecom Act Implementation
- Summary & Conclusions

Stanford L. Levin, "Local Exchange Competition, Unbundling and Interconnection Policy," Telecommunications Infrastructure and the Information Economy Conference, March 10 - 11, 1995

## Agenda

- Principles
  - ▶ Network
  - ▶ Unbundling
  - ▶ Pricing

## Principles: Network

- Exchange Connectivity
- Reciprocity
- Equal Treatment
- Equivalence
- Efficiency Provided (time & space)

## Principles: Unbundling

- Essential Facilities Mandated
- Nonessential may be offered
- Non-discriminatory
- No resale restrictions

## Principles: Pricing

- Prices Reflect Costs

### Principles: Pricing

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- **Prices Reflect Costs**
  - ▶ Usage sensitive price for usage sensitive costs
  - ▶ Non-usage sensitive price for non-usage sensitive costs

### Principles: Pricing

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- **Prices Reflect Costs**
- **Price > Incremental Cost**

### Principles: Pricing

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- **Prices Reflect Costs**
- **Price > Incremental Cost**
- **Interconnection Prices**
  - ▶ Incremental cost plus
  - ▶ Regulatory markup

### Principles: Pricing

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- **Prices Reflect Costs**
- **Price > Incremental Cost**
- **Interconnection Prices**
- **De-averaged Prices**

### Principles: Pricing

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- **Prices Reflect Costs**
- **Price > Incremental Cost**
- **Interconnection Prices**
- **De-averaged Prices**
- **Universal Service Contribution**

### Principles: Pricing

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- **Prices Reflect Costs**
- **Price > Incremental Cost**
- **Interconnection Prices**
- **De-averaged Prices**
- **US Contribution**
- **Recovery of US Subsidy**

## Principles: Pricing

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- Prices Reflect Costs
- ...
- Recovery of US Subsidy
- **Component Pricing**
  - ▶ Incremental cost plus
  - ▶ Regulatory markup

## Principles: Pricing

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- Prices Reflect Costs
- ...
- Recovery of US Subsidy
- **Component Pricing**
  - ▶ Incremental cost plus
  - ▶ Regulatory markup
  - ▶ **Unbundling costs covered**

## Principles: Pricing

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- Prices Reflect Costs
- ...
- **Component Pricing**
  - ▶ Incremental cost plus
  - ▶ Regulatory markup
  - ▶ Unbundling costs covered
  - ▶ **Non-essential facilities -- market determined**

## Telecom Act of 1996: Sec. 251

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Interconnection

- **Carriers duties**
  - ▶ "...to interconnect directly or indirectly with the facilities and equipment of others..."

## Telecom Act of 1996: Sec. 251

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Interconnection

- **Carriers duties**
  - ▶ "...to interconnect directly or indirectly with the facilities and equipment of others..."
  - ▶ "...not to install network features, functions, or capabilities that do not comply with the guidelines and standards..."

## Telecom Act of 1996: Sec. 251

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Interconnection

- **Carriers duties**
- **Exchange Carriers Obligations**
  - ▶ Resale

## Telecom Act of 1996: Sec. 251

### Interconnection

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- Carriers duties
- Exchange Carriers Obligations
  - ▶ Resale: "... not to prohibit, and not to impose unreasonable or discriminatory conditions or limitations on, the resale of its ... services."

## Telecom Act of 1996: Sec. 251

### Interconnection

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- Carriers duties
- Exchange Carriers Obligations
  - ▶ Resale
  - ▶ Number portability: "... to provide, to the extent technically feasible, number portability...."

## Telecom Act of 1996: Sec. 251

### Interconnection

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- Carriers duties
- Exchange Carriers Obligations
  - ▶ Resale
  - ▶ Number portability
  - ▶ Dialing parity

## Telecom Act of 1996: Sec. 251

### Interconnection

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- Exchange Carriers Obligations
  - ▶ ...
  - ▶ Dialing parity: "... to provide dialing parity to competing providers ... and ... to permit all such providers to have nondiscriminatory access to telephone numbers, operator services, directory assistance, and ... listing, with no unreasonable dialing delays."

## Telecom Act of 1996: Sec. 251

### Interconnection

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- Carriers duties
- Exchange Carriers Obligations
  - ▶ Resale
  - ▶ Number portability
  - ▶ Dialing parity
  - ▶ Access to rights-of-way

## Telecom Act of 1996: Sec. 251

### Interconnection

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- Carriers duties
- Exchange Carriers Obligations
  - ▶ ...
  - ▶ Access to rights-of-way: "... to afford access to the poles, ducts, conduits, and rights-of-way ... to competing providers of ... services on rates, terms, and conditions that are consistent with section 224."

## Telecom Act of 1996: Sec. 251

### Interconnection

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- Carriers duties
- **Exchange Carriers Obligations**
  - ▶ Resale
  - ▶ Number portability
  - ▶ Dialing parity
  - ▶ Access to rights-of-way
  - ▶ Reciprocal compensation

## Telecom Act of 1996: Sec. 251

### Interconnection

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- Carriers duties
- **Exchange Carriers Obligations**
  - ▶ ...
  - ▶ Reciprocal compensation: "... to establish reciprocal compensation arrangements for the transport and termination of telecommunications."

## Telecom Act of 1996: Sec. 251

### Interconnection

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- ...
- **Incumbent Exchange Carriers**
  - ▶ Duty to negotiate

## Telecom Act of 1996: Sec. 251

### Interconnection

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- ...
- **Incumbent Exchange Carriers**
  - ▶ Duty to negotiate: "... in good faith .... The requesting telecommunications carrier also has the duty to negotiate in good faith the terms and conditions of such agreements."

## Telecom Act of 1996: Sec. 251

### Interconnection

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- ...
- **Incumbent Exchange Carriers**
  - ▶ Duty to negotiate
  - ▶ "Interconnection"

## Telecom Act of 1996: Sec. 251

### Interconnection

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- ...
- **Incumbent Exchange Carriers**
  - ▶ Duty to negotiate
  - ▶ "Interconnection: The duty to provide, for the facilities and equipment of any requesting telecommunications carrier, interconnection with the exchange carrier's network"

## Telecom Act of 1996: Sec. 251

### Interconnection

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- ...
- **Incumbent Exchange Carriers**
  - ▶ Duty to negotiate
  - ▶ **Interconnection:**
    - at any technically feasible point within the carrier's network;

## Telecom Act of 1996: Sec. 251

### Interconnection

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- ...
- **Incumbent Exchange Carriers**
  - ▶ Duty to negotiate
  - ▶ **Interconnection:**
    - "at any technically feasible point ... "
    - "that is at least equal in quality ... provided... to itself or ... any other party to which the carrier provides interconnection..."

## Telecom Act of 1996: Sec. 251

### Interconnection

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- ...
- **Incumbent Exchange Carriers**
  - ▶ Duty to negotiate
  - ▶ **Interconnection:**
    - "at any technically feasible point ... "
    - "...equal in quality ... "
    - "on rates, terms, and conditions that are just, reasonable, and nondiscriminatory..."

## Telecom Act of 1996: Sec. 251

### Interconnection

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- ...
- **Incumbent Exchange Carriers**
  - ▶ Duty to negotiate
  - ▶ **Interconnection:**
    - "at any technically feasible point ... "
    - "...equal in quality ... "
    - "on rates, terms, and conditions ... just, reasonable, and nondiscriminatory..."

## Telecom Act of 1996: Sec. 251

### Interconnection

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- **Carrier Duties**
- **Exchange Carriers Obligations**
- **Incumbent Exchange Carriers Obligations: In addition ...**
  - ▶ Duty to negotiate
  - ▶ **Interconnection Obligations**

## Summary & Conclusions

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- **Adequate Interconnection**
  - ▶ Mechanics
  - ▶ Unbundling
- **Pricing**
  - ▶ ROR rejected
  - ▶ Incomplete specification
  - ▶ Vague
  - ▶ Not optimal