



Enabling New Business Models and Embracing the Future: The Network Operator and OTT Symbiotic Relationship

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Old Assumptions



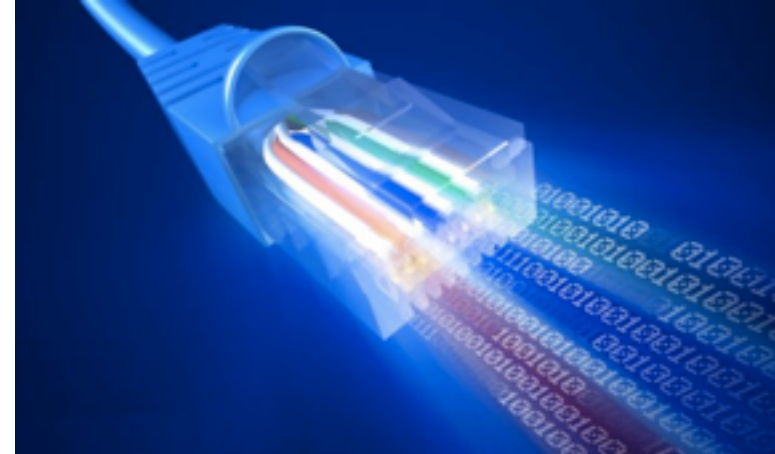
- The product is voice
- The metric is minutes
- Distance matters
- Duration matters
- Location matters

Old Assumptions



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New Realities

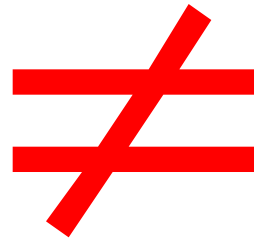


- The product is connectivity
- The metric is bandwidth/throughput
- Distance insensitive
- Time insensitive
- Location insensitive

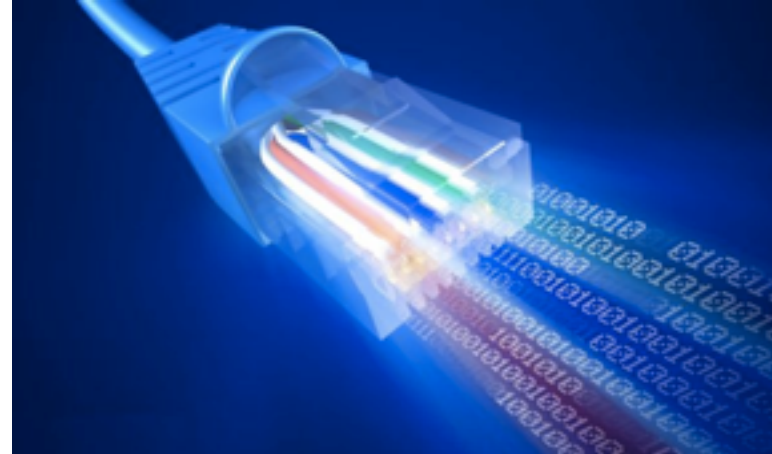
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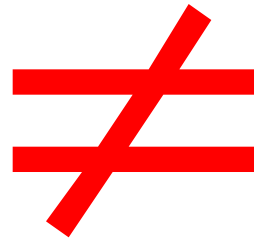
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Need New Business Models

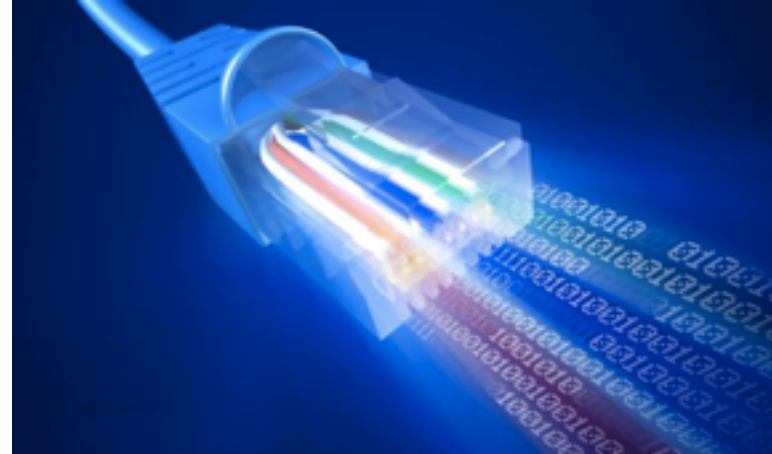
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Symbiotic relationship



Virtuous cycle



Asia -> Oregon

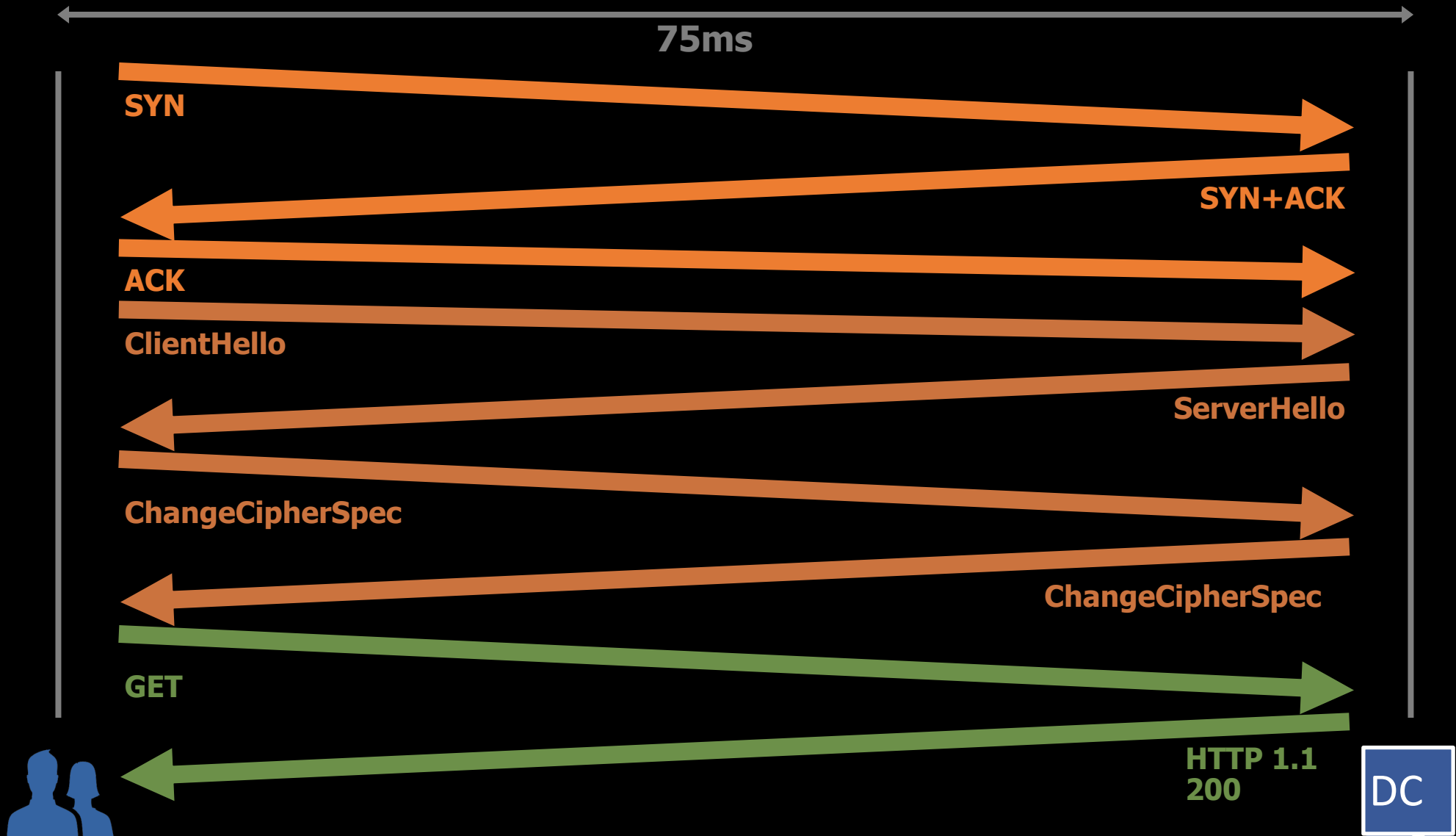


HTTPS Asia -> Oregon

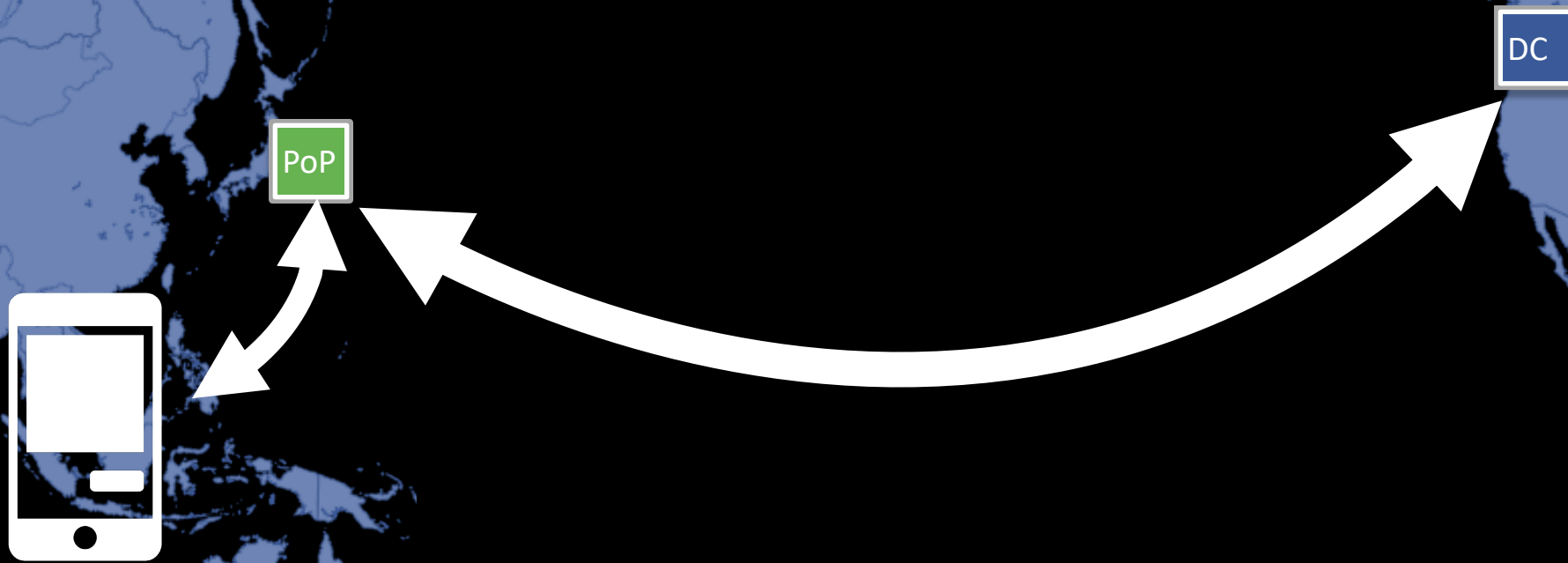
TCP conn established:
150 ms

SSL session established:
450 ms

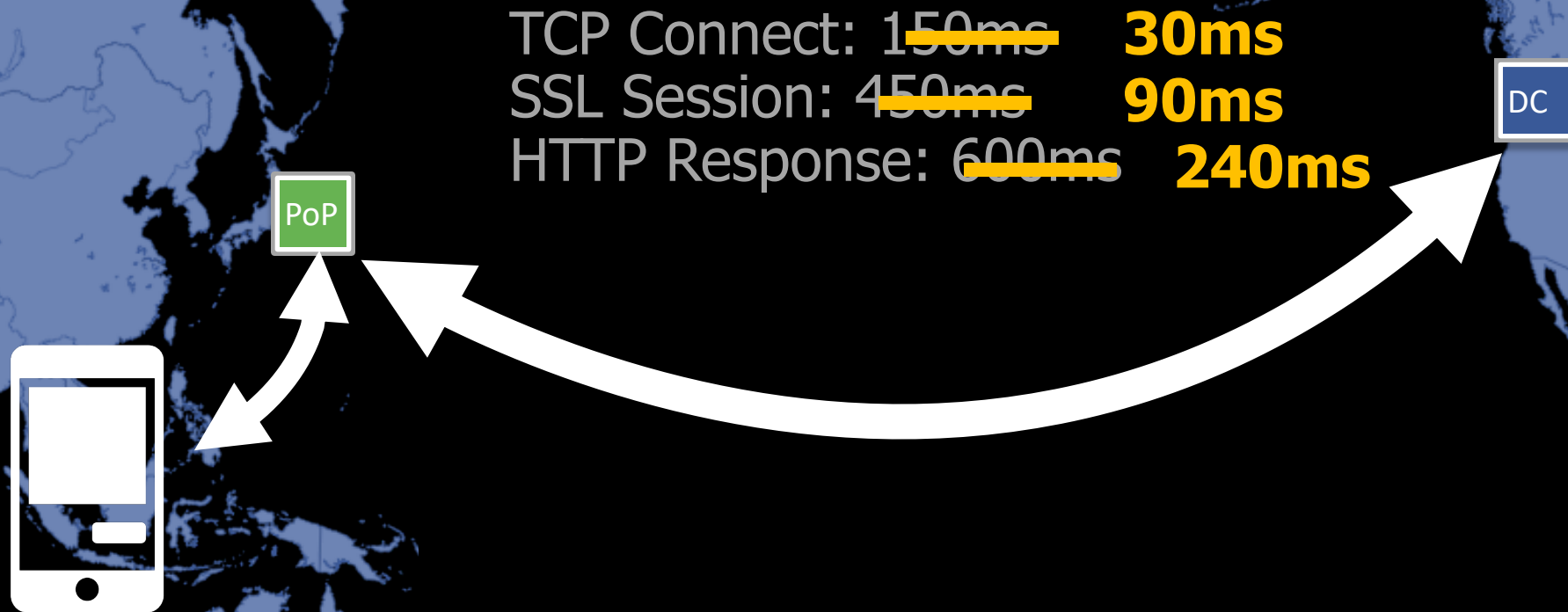
Response Received
600 ms



Asia -> Oregon



Asia -> Oregon

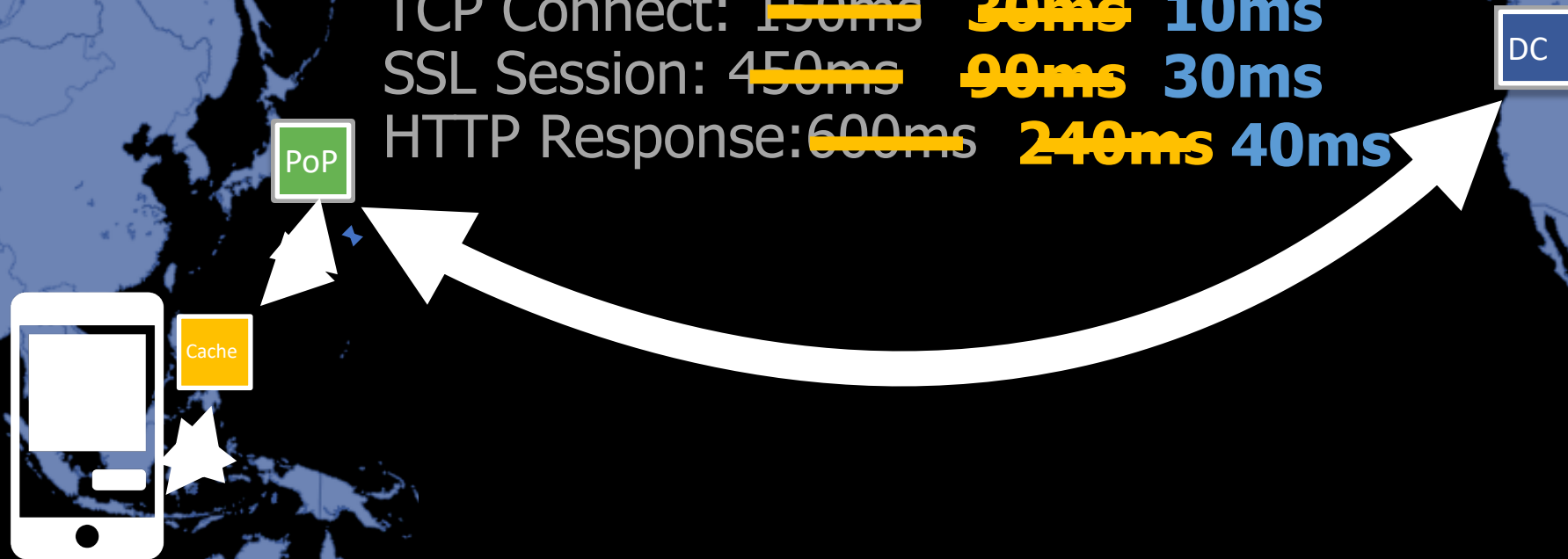


Asia -> Oregon

Caches

Static Objects: Videos, Pictures
Cachefill from PoP
Dynamic still served from PoP

TCP Connect:	150ms	30ms	10ms
SSL Session:	450ms	90ms	30ms
HTTP Response:	600ms	240ms	40ms



Economic Benefits of OTT Applications

- 5% point increase in WhatsApp associated with **GDP increase: \$1.1 billion in Middle East, \$1.0 billion in South America, and \$0.8 billion in Africa.**
- 10% increase in use of rich interaction apps (i.e., OTTs) adds **\$5.6 trillion in global GDP.**
- **India:** Internet-based apps contributed at least **US \$20.4 billion to GDP** (2015-2016); expected to grow to US **\$270.9 billion by 2020**, nearly 8 per cent of India's GDP
- **Women owned or managed small business in Africa** say social media (e.g., Facebook) **helps their business**...expressed by 85% of women business owners and managers in Nigeria, 88% in South Africa, 92% in Ghana, and 96% in Benin.
- **World Bank** Digital Development partnership reported users in Southeast Asia turn to social media as **key source of information when making purchasing decisions**
 - 78 percent of consumers in Asia get information about products and services on social media
 - 68 percent share that brand-related information on social channels, which **helps small businesses attract and retain customers.**

Policies for a Mutually Beneficial Future

Need new frameworks that support innovation, investment, new business models, competition that (re)align economics with incentives, complexity and competition

Supply side: policies (not just regulation) that lower costs, speed deployment—e.g., more spectrum/reduce build costs

Demand side: policies that foster relevance and readiness; e.g., local content/language, eGov services, eCommerce, new apps, low cost/free apps; skills

Promote growth, investment and innovation through competition that enables light touch regulation that, if necessary, is narrowly tailored, appropriate, proportionate and sensible