Deployment and Regulatory Considerations of the Neutral Host Model: The Case of 5GCity

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Who we are

Consulting

Research

Prognosis
5G Challenges

- A number of unprecedented challenges arise for the deployment of 5G networks

- Uneconomic to deploy in rural areas
- Need for densification in urban areas
- Overcrowded poles
- Respect radiation limits
- Minimise CAPEX
- Access to public furniture
Business Models - 1

- Service provisioning will enable various new business models in the 5G era

With existing networks

- Undifferentiated services
  - Service
  - Bundle 1
  - Bundle 2
  - Bundle 3

With 5G

- Differentiated services
  - Service 1
  - Service 2
  - Service 3
  - Customer X
  - Consumer Y
  - Customer Z
  - Consumer N
Business Models - 2

- The Neutral Host model will unlock new business opportunities
Neutral Host in the new Value Chain

- In the new telco value chain new players will emerge and existing players will have new roles

Neutral Host

<table>
<thead>
<tr>
<th>HW Manufacturers</th>
<th>SW Developers</th>
<th>Facility Managers</th>
<th>Network Operators</th>
<th>Content / Service Providers</th>
<th>End-users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net equipment</td>
<td>Virtual functions</td>
<td>Lamp posts</td>
<td>Mobile and fixed operators</td>
<td>Event organizers</td>
<td>Customers</td>
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<tr>
<td>CPEs, Sensors</td>
<td>Applications</td>
<td>Cabinets</td>
<td>Spectrum Owners</td>
<td>Journalists</td>
<td>Businesses</td>
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<tr>
<td>Cars</td>
<td>Platforms</td>
<td>Towers</td>
<td>Data Centers</td>
<td>Media</td>
<td>Verticals</td>
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<tr>
<td>AR/VR</td>
<td></td>
<td>Buildings</td>
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Operators are sceptical

- Traffic data or customer profile data
- Dynamic management of and intervention on the resources
- Afraid of incomplete isolation between slices / tenants
- Worried about exhaustive pricing from the neutral host
- Flexibility on billing?
  - we consider the aspect correlated to the host platform usage from the telco point of view
  - we consider the inclusion of all the costs in the global schema
- Issues with regards to SLAs between all parties
- Interoperability of systems when providing end-to-end services
5GCity Business Model Canvas

Key Partners
- Vendors
- Network Function Providers
- Developers
- Open source communities
- Scientific communities
- Facilities managers
- Landlords

Key Activities
- Network operation
- Provision of slices
- Provision and operation of services
- Training, consulting and certification

Key Resources
- ICT equipment
- Facilities
- Personnel

Value Propositions
- Network slicing
- SDN-based virtual RAN slicing
- Function virtualization
- Develop network functions
- Combine functions to create services
- Flexible billing system
- Edge computing capabilities

Customer Relationships
- B2B
- Online support
- Call centers
- In field assistance

Channels
- Direct sales
- Through dealers

Customer Segments
- Verticals
- Over the Top (OTT)
- Mobile Network Operators (MNOs)
- Advertising agencies

Cost Structure
- Maintenance support
- CAPEX / OPEX
- Marketing
- R&D / Development

Revenue Streams
- Wholesale access fees (fixed or dynamic)
- Services (fixed or dynamic)
- Training, consulting and certification
Initial 5GCity Reference Model

Service Catalogues

Neutral Host

Network Slices
Service chaining

Virtual Network Operators

Service / Content Providers

5GCity platform

5GCity community

Service Developers
Reg. issues and recommendations

- The regulator must ensure a level playing field for all hosted clients
Thank you!

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