

Croatia – Experience with Regulation of Broadband Markets

**Croatian Post and Electronic
Communications Agency
- HAKOM -**

Sarajevo, 5th of November, 2010



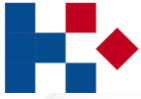
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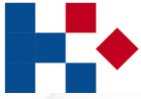
Croatia – Experience with Regulation of Broadband Markets

- **17th of July, 2009 - HAKOM Council decisions on Market analysis of following markets:**
 - **Wholesale (physical) access to the network infrastructure, including shared and full unbundled access, at fixed location**
 - **Market 4**
 - **Wholesale broadband access**
 - **Market 5**



*Wholesale (physical) access to the network infrastructure,
including shared and full unbundled access,
at fixed location*

Market 4



Market 4

↗ **Market Definition**

↗ **SMP Assessment**

↗ **Remedies Imposed**



Market Definition

Relevant product/service market

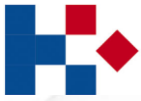
- full and shared Local Loop Unbundling (LLU) – copper pair
- full and shared sub-loop unbundling (SLU)
- fiber unbundling – Point-to Point (P2P)
- access to the network infrastructure – **incumbents' self supply**
- collocation – physical, remote and virtual

WBA offer

Passive Optical Network (PON) excluded
not technically feasible in timeframe of this analysis

Relevant geographic market

- national territory of Republic Croatia



Market 4

➤ **Market Definition**

➤ **SMP Assessment**

➤ **Remedies Imposed**



SMP Assessment

Based on following criteria:

100% market share

control of infrastructure not easily duplicated

economies of scale

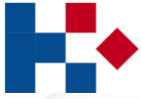
economies of scope

low countervailing buyer power

vertical integration



HT
is designated as SMP

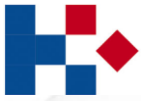


Market 4

➔ **Market Definition**

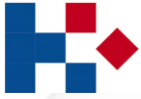
➔ **SMP Assessment**

➔ **Remedies Imposed**



Remedies Imposed 1(9)

- ➔ **Access to and use of specific resources networks**
- ➔ **Non-discrimination**
- ➔ **Transparency**
- ➔ **Price control and cost accounting**
- ➔ **Accounting separation**



Remedies Imposed 2(9)

Access to and use of specific resources networks

- HT is obliged to provide on reasonable request access to:
 - full and shared Local Loop Unbundling (LLU) – copper pair
 - full and shared SLU
 - fiber LLU – P2P
- HT is obliged not to withdraw access to facilities already granted
- HT is obliged to ensure mutual usage of space and electronic communications infrastructure



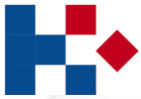
Remedies Imposed 3(9)

Access to and use of specific resources networks

SLU has to be provided in two ways:

- where HT installed own street cabinet - HT has to provide:
 - space in street cabinet for SLU
 - access to ducts – according to Electronic Communications Act
 - access to dark fiber – in case there is no place in ducts
 - access to WWDW – in case there is no dark fiber available

- operators can install own street cabinet in some point of HT's access network, in accordance to their business plan – **irrelevant if HT has installed its own cabinet there**
 - more viable for the new wireline operators



Remedies Imposed 4(9)

Access to and use of specific resources networks

- HT is obliged to ensure **basic Service Level Agreement (SLA)**
- HT is obliged to inform HAKOM on every **advanced SLA** agreed – in order to enable HAKOM to monitor the appliance of non-discrimination



Remedies Imposed 5(9)

Non-discrimination

- HT is obliged to apply **equivalent conditions** in **equivalent circumstances** to other undertakings providing equivalent services
- HT is obliged to **provide services and information** to others **under the same conditions and of the same quality** as it provides for its own services, or those from its subsidiaries and partners
- HT should provide information on planned modifications in network at least **1 year in advance**
- HT should provide information on planned de-commissioning of complete copper access network at least **5 years in advance**



Remedies Imposed 6(9)

Transparency

- HT is obliged to publish reference offer for services included in relevant market:

<i>LLU – copper pair</i>	<i>until 1st of October, 2009</i>	} set terms and prices
<i>SLU</i>	<i>within 90 days from the reasonable request*</i>	
<i>LLU - fiber (P2P)</i>	<i>within 90 days from the reasonable request*</i>	

→ **implement ordered changes**

*** reasonable request**

- **SMP operators evaluate what is reasonable request according to non-discrimination and technical possibilities of their network**
- **in case of dispute – HAKOM decides if the request is reasonable**



Remedies Imposed 7(9)

Transparency

- ➔ HT is obliged to deliver **quarterly, or on request, detailed report on performance indicators (KPIs)** to HAKOM
- ➔ HT is obliged to provide to HAKOM and to the other Other License Operators (OLOs) with access **to the database** that is used for calculation and storage of **KPIs**



Remedies Imposed 8(9)

Price control and cost accounting

	<i>full LLU</i>	<i>shared LLU</i>
<i>LLU monthly fee – copper pair</i>	7,27€* <i>(unmodified)</i>	2,99€* <i>(decreased - based on benchmark)</i>

* 1€=7,1748 HRK – average exchange rate in period July – December 2008

- price for shared LLU - new price from 1st October, 2010, in accordance to the methodology (benchmark) written in analysis and the latest data – **2,53 €**

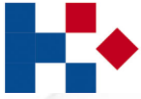
<i>SLU monthly fee</i>	within 90 days <i>from the reasonable request HT is obliged to offer reasonable price</i>
<i>LLU fibre (P2P) monthly fee</i>	within 90 days <i>from the reasonable request HT is obliged to offer reasonable price</i>



Remedies Imposed 9(9)

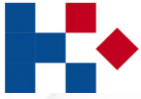
Accounting separation

HAKOM Council on 18th of November, 2008, ordered HT the way of performing the accounting separation and cost accounting, in a way and terms defined in the document "Accounting separation and cost accounting instructions" under segment 3 – Wholesale network infrastructure access (including full and share access) at a fixed location



Wholesale Broadband Access

Market 5



Wholesale Broadband Access

➤ **Market Definition**

➤ **SMP Assessment**

➤ **Remedies Imposed**



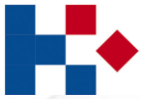
Market Definition

Relevant product/service market

- *bitstream* service regardless of the access technology to the end user used (**copper / copper + fiber / fiber**)
 - IP level
 - Ethernet level
 - DSLAM/OLT or corresponding level
- ADSL – incumbents' self supply

Relevant geographic market

- national territory of Republic Croatia



Wholesale Broadband Access

➤ **Market Definition**

➤ **SMP Assessment**

➤ **Remedies Imposed**



SMP Assessment

Based on following criteria:

100% market share

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economies of scale

economies of scope

low countervailing buyer power

vertical integration



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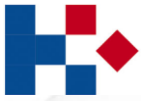


Wholesale Broadband Access

➔ **Market Definition**

➔ **SMP Assessment**

➔ **Remedies Imposed**



Remedies Imposed 1(9)

- ➔ **Access to and use of specific resources networks**
- ➔ **Non-discrimination**
- ➔ **Transparency**
- ➔ **Price control and cost accounting**
- ➔ **Accounting separation**

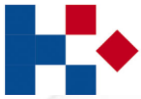


Remedies Imposed 2(9)

Access to and use of specific resources networks

- HT is obliged to provide on reasonable request access to:
 - *bitstream service* regardless of the access technology to the end user used (*copper / copper + fiber / fiber*)
 - IP level
 - Ethernet level
 - DSLAM/OLT or corresponding level
- HT is obliged not to withdraw access to facilities already granted
- HT was obliged to provide by 1st of January, 2010, technical conditions for provision of private virtual channels

P2P and PON

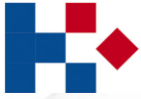


Remedies Imposed 3(9)

Access to and use of specific resources networks

- HT is obliged to ensure backhaul capacity (Ethernet, or TDM leased lines)
 - HT is obliged to ensure that operators can access HT's network with own backhaul capacity

- HT is obliged to ensure migration:
 - between *Bitstream* access levels
 - between *Bitstream* access and LLU/SLU access



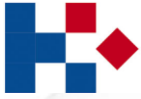
Remedies Imposed 4(9)

Access to and use of specific resources networks

- ▶ HT is obliged to update its WBA offer 6 months before it launches new retail services based on fibre
 - ▶ this refers only to **WBA at IP level** based on **FttX**

*in accordance with
non-discrimination
principles*

- ▶ **WBA at Ethernet level or Optical Line Terminal (OLT)** based on **FttX** - only on reasonable request



Remedies Imposed 5(9)

Access to and use of specific resources networks

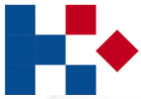
- HT is obliged to ensure **basic SLA**
- HT is obliged to inform HAKOM on every **advanced SLA** agreed –to monitor in order to enable HAKOM the appliance of non-discrimination



Remedies Imposed 6(9)

Non-discrimination

- HT is obliged to apply **equivalent conditions** in **equivalent circumstances** to other undertakings providing equivalent services
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- HT should provide information on planned modifications in network at least **1 year in advance**
- HT should provide information on planned de-commissioning of complete copper access network at least **5 years in advance**



Remedies Imposed 7(9)

Transparency – obligation of publishing WBA reference offer

➤ WBA products based on copper

<i>BSA at <u>IP level</u></i>	<i>by 1st of October, 2009</i>	→ implement ordered changes
<i>BSA at <u>Ethernet & DSLAM level</u></i>	<i>within 90 days from the reasonable request*</i>	→ set terms & prices

➤ WBA products based on fibre

- as HT announced its FTTH/B roll out plan – 50 000 users by the end of 2009 –
 - HT is obliged to update its WBA offer 6 months before it offers new retail services based on fibre



Remedies Imposed 8(9)

Price control and cost accounting

- WBA products based on copper
 - 1st of October, 2009 - HT was obliged to define retail minus index for BSA at IP level for each combination of speed and usage limit offered at retail level

- WBA products based on fibre
 - cost-oriented price that implies reasonable return on capital employed
 - return on capital higher, if new civil engineering infrastructure is to be built

- HT has been obliged to define prices for private virtual channel for VOIP and private virtual channel for IPTV



Accounting separation

HAKOM Council on 18th of November, 2008, ordered HT the way of performing the accounting separation and cost accounting, in a way and terms defined in the document "Accounting separation and cost accounting instructions" under segment 7 – Wholesale broadband access



Experience After Market Analysis Decisions 1(5)

MARKET 4

- public call for proposals for amendments for the LLU reference offer from 2nd of June - 2nd of July 2010
- public consultation on amendments of LLU reference offer - pending
- new LLU offer will be in force until the end of 2010

MARKET 5

- 4 expert supervisions: on 29th of December, 2009, on 22th of January, 2009, on 15th of May, 2009, on 14th of July, 2009
- public call for proposals for amendments for the WBA reference offer from 12th – 24th of March, 2010
- public consultation on amendments of WBA reference offer from 20th of May to 21st of June, 2010
- new bitstream offer in force from October, 2010



Experience After Market Analysis Decisions – Market 5 2(5)

Wholesale Broadband Access

➔ WBA PRODUCTS BASED ON COPPER

- ➔ by 1st of October, 2009 - HT was obliged to define retail minus index for BSA at IP level for each combination of speed and usage limit offered at retail level
- ➔ HT defined percentage X as 15%
- ➔ in HAKOM's opinion – proposed percentage is not sufficient to prevent exercising significant market power
- ➔ HAKOM Council decision of 12th of March, 2010 – percentage X defined as 40%

➔ WBA PRODUCTS BASED ON FIBRE

- ➔ there is ongoing debate with the incumbent on implementing terms and prices of Bit Stream Access (BSA) at IP level in WBA reference offer



Experience After Market Analysis Decisions – Market 5 3(5)

Price control and cost accounting

- HT was obliged to define prices for *private virtual channel for VOIP* and *private virtual channel for IPTV*
- in HAKOM's opinion – proposed prices were not sufficient to prevent exercising significant market power
- HAKOM Council decision of 15th of September, 2010 – prices for private virtual channels defined

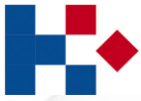
<i>private virtual channel</i>	<i>monthly rental in €</i>
<i>virtual channel for VOIP – 256 kbit/s</i>	1,53
<i>virtual channel for VOIP – 512 kbit/s</i>	2,15
<i>virtual channel for IPTV SD</i>	2,79
<i>standalone virtual channel for IPTV SD</i>	4,38
<i>virtual channel for IPTV HD</i>	6,69
<i>standalone virtual channel for IPTV HD</i>	8,15

* 1€=7,1748 HRK – average exchange rate in period July – December, 2008



Experience After Market Analysis Decisions 4(5)

- September, 2010 – HAKOM adopted the ***Ordinance on technical and application conditions for optical distribution networks***
 - conditions for developing, planning, designing, construction, utilisation and maintenance of optical distribution network in Croatia
 - quality standards applying to operators and local/regional government for building optical distribution network in Croatia
 - creates conditions for ***open access network***



Experience After Market Analysis Decisions 5(5)

- August, 2010 – BNetzA notified its draft decision on analysis of *Market 5*
 - VDSL and fibre access networks included in the market definition
 - DT announced in March, 2010 a plan to reach 10% of German household with FTTH/B by the end of 2012
 - European Commission accepted the notification, but asked BNetzA to oblige DT to update its WBA offer before it launches a new retail service based on fibre
- September, 2010 – NGA Recommendation

Art 33. - NRAs should apply non-discrimination principles in order to avoid any timing advantage for the retail arm of the SMP operator. The latter should be obliged to update its wholesale bitstream offer before it launches new retail services based on fibre to allow competing operators enjoying access a reasonable period to react to the launch of such products. Six months is considered a reasonable period to make the necessary adjustments, unless other effective safeguards exist which guarantee nondiscrimination.
- BNetzA decision in line with HAKOM decision on analysis of *Market 5* in 2009



Conclusion

- **Remedies to SMP have been imposed as the result of market analysis for the markets 4 and 5**
- **Decisions of other bodies and NRAs in Europe has confirmed that Croatia has chosen the right way to regulate these fast growing markets**
- **Positive reaction from stock exchange in Croatia and waste majority of the players at the electronic communications market in Croatia**



HAKOM



**Thank you
for your attention !**

**Dražen Lučić, Ph.D.
Executive Director**



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