Lightspeed Submission in response to the Local Loop Unbundling Public Consultation

Issued by

The Telecommunications Regulatory Authority of the Kingdom of Bahrain

(TRA)

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(Confidential)
Preamble

Lightspeed welcomes the opportunity to participate in responding to the Public Consultation issued by the Telecommunications Regulatory Commission (TRA) in Bahrain for the purposes of introducing Local Loop Unbundling into the Reference Offer as a regulated product in addition to Bitstream and Wholesale DSL. Accordingly, Lightspeed is kindly submitting its response on the following published documents that were issued for public consultation:

A- The Draft Determination of Dominance in Wholesale Broadband Markets, hereinafter referred to as the “Consultation on Dominance in Wholesale Broadband Markets”, and

B- The Draft Access Order, imposing an Access Obligation on Batelco to provide Local Loop Unbundling, requiring the continued provision of the Bitstream and Wholesale DSL products, which consists of the following two schedules:

1- Draft Access Order Schedule 1: Study on the Regulation of Wholesale Broadband Markets, hereinafter referred to as the “Consultation on the Access Order Schedule 1”.

2- Draft Access Order Schedule 2: Appropriate approach for the implementation of Local Loop Unbundling (LLU) in the Kingdom of Bahrain, hereinafter referred to as the “Consultation on the Access Order Schedule 2”.

It is abundantly clear that Full Local Loop Unbundling (LLU) is a complex process and that regulation and monitoring must be firmly in place to ensure the effective implementation by both the incumbent and small/new entrants of the Local Loop Unbundling process.

The implementation of the local loop unbundling in the Bahraini telecommunications market must therefore offer better pricing; affordable services and quality products that would have significant impact on the economic growth of the country as far as information and communication technologies are concerned. Full LLU must be understood to be a stimulant to economic growth.

Lightspeed supports the TRA view in principal to introduce Full Local Loop Unbundling into the Reference Offer as a regulated product in addition to Bitstream and Wholesale DSL. Lightspeed firmly believes that Confidential
the current telecommunications market conditions in Bahrain leaves no option to the TRA but to take a step forward to implementing Full Local Loop Unbundling and mandating it on the incumbent operator Batelco.

The current Wholesale DSL and Bitstream services are no longer sufficient if the TRA is to achieve its main objectives of establishing effective competition and increasing the internet penetration in the Bahraini telecommunications market.

Lightspeed believes that TRA’s review of the wholesale local access market represents a further necessary step towards addressing the problems of restricted competition in the wholesale broadband market and the creation of a dynamic sector which can deliver benefits at all levels of the value chain. The study on the regulation of wholesale provides a significant opportunity to ensure that the framework for competition, in the local wholesale market, is successfully created. Lightspeed very much agrees with the TRA assertion that Competition based on Full LLU is the best way to delivering effective competition in the broadband market and is particularly vital in providing competitors with opportunities for innovation and product and price differentiation.

A quick look at today’s market shows clearly that Batelco is by far an abnormal dominant operator in the market with more than 90% of the telecommunications market in general. This imbalance can be attributed to several reasons: the incumbent is in full control of the wholesale supply of critical ADSL inputs while it controls the retail internet market thereby favoring its own retail arm, the incumbent’s control of the fixed telecom market, among other dominance factors.

Most of value added services cannot be supported today with the current available capacities provided by the Internet Service Providers put together. This is due to limitations on bandwidth, infrastructure and quality of service provided by the incumbent Batelco.

Once Full LLU is introduced and implemented, competing operators will have full ownership and control over their DSLAM equipment and can determine the type of DSL technology to be used and also the traffic collection capacity and quality of service of data to be delivered to end users.
Lightspeed Submission in response to the Local Loop Unbundling Public Consultation

Lightspeed welcomes the opportunity to respond to the Consultation on Local Loop Unbundling. Lightspeed would therefore like to respond to the published documents for public consultation by raising and addressing the following General and Specific comments.

General Comments:

1-Implementing Full Local Loop Unbundling and understanding its benefits:

Lightspeed stresses that the implementation of Local Loop Unbundling has been stalled without any legal or regulatory justification from the TRA. Article 40 of the Bahraini Telecommunications Law (Timetable for other matters) clearly sets a legal and fixed timetable for the implementation of Local Loop Unbundling. Local Loop Unbundling should have been introduced to the market by July 2004.

Nonetheless, Lightspeed sees that the implementation of Full Local Loop Unbundling is a step forward towards facilitating affordable open access, lower prices of telecommunications and offer a wide choice of access to new and small licensed operators in the market. Such open access and customer choice will not be meaningful without ensuring that customers can switch between service providers expeditiously.

Lightspeed stresses that new entrants and/or small operators in the market are simply companies that desire to operate in the telecommunications market space where the incumbent Batelco who for many years has been enjoying the monopoly and dominance in distributing voice and data services to all segments of the Bahraini telecommunications market. New entrants and small operators should always be viewed by the TRA as being an essential value added constituent in the telecommunication industry by better serving customers with more advanced and innovative services. They should also be viewed as elements whose presence in the telecommunication marketplace will dynamically enhance competition in the

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1 Article 40 states:
"Public Telecommunications Operators with Significant Market Power and every other Licensee whose Licence provides for the following obligations to Subscribers and Users or other Licensees provided for in his/its License shall provide the following: ...5-Unbundled Local Loop: with effect from 1/7/2004."
telecommunication space in the country. Lightspeed expects that the proper implementation of Full Local Loop Unbundling will inevitably result in fixed line improvements, an immediate advancement of the availability of broadband access and data services at more competitive and affordable prices. The current telecommunications market conditions in the Kingdom of Bahrain show clearly a lack of effective competition at the local-access level that has continued for too long. It is therefore that Lightspeed strongly believes that the implementation of Full Local Loop Unbundling will be a key way to increase competition in the industry leading to lower prices and improved services.

Full Local Loop Unbundling is the process of allowing both the incumbent operator Batelco and small/new entrants to have open access to use the copper-pair of the local loop infrastructure, which are the fixed line telephone connections from the telephone exchange to the customers’ premises. For the small/new entrants and the incumbent to share the usage of the local loop, a new and strict regulatory framework that will bring fairness in competition and balance the benefits to all stakeholders needs to be put in place by the TRA.

For small/new entrants to compete with Batelco in providing high-speed telecommunication services to end users, they need to gain access to the copper based local loop. This necessitates the incumbent Batelco to consent to the competitors installing their own equipments on both sides of the local loop in order to provide their own telecommunication services using processes such as collocation. As a result, small/new entrants will be competing in offering the same broadband services and the increased competition due to an increased number of providers will give customers better pricing, better quality and quantity of telecommunication services as well as give broad coverage to the country with broadband services in urban, rural, business or residential areas. Lightspeed stresses that permitting competition on the local loop would place a strong downward pressure on tariffs for high speed voice and data services and diminish significantly the cost of internet access.

Lightspeed anticipates that the introduction of Full LLU will be opposed by the incumbent Batelco because of the naive and narrow minded view that new entrants choose to be ‘parasites’ on the incumbent’s network as an alternative to building their own local loop network. On the other hand, Lightspeed strongly rejects this opinion and argues that, it is in line with international best practice that operators and regulators do not choose the option of replicating the incumbent’s infrastructure network because of its negative and uneconomical feasibility on the macro and the micro economical levels. Further, new/small operators in the
Bahraini telecommunications market cannot economically replicate the incumbent’s copper local loop and cannot make available certain telecommunication services such as ADSL without access to the incumbent’s local loop infrastructure. As a result, not implementing Full LLU will promote the incumbent Batelco to go on monopolizing the fixed-line telecommunication market and repressing innovation and in so doing reducing economic growth of the Kingdom of Bahrain. In addition to the benefits listed throughout the Consultation following are some of Lightspeed expected benefits resulting from the implementation of Full Local Loop Unbundling in the Kingdom of Bahrain:

1- Facilitating telecommunication providers to innovate and differentiate their product offerings.
2- Promoting competition in the provision of broadband services.
3- Offering opportunities for innovation to drive product and price differentiation.
4- Permitting providers to give a better choice of applications and improved service levels.
5- Allowing customers to have alternatives in terms of telecommunication services and price.
6- Speeding up national economic growth and increase competitiveness in the global market.
7- Supporting ICT in the country, and hence promoting economic and social growth in addition to employment opportunities, in line with Bahrain’s 2030 economic vision.

2- **International best practices and Strategic issues in Full Local Loop Unbundling**

International practices around the world show that LLU has managed to succeed in a lot of major countries. The European Commission’s 12th Implementation report has collated data from EU Member States which according to the Commission showed that new entrants, spurred on by adequate access price regulation, are climbing the ladder of investment by moving away from Bitstream access (5.13 million lines) towards local loop unbundling (13.89 million lines) in the provision of broadband services.²

² www.oecd.org
The track record of countries with unbundling, as measured by the number of fully unbundled lines, would indicate that unbundling policies have been successful at least as far as creating competition to incumbents in a number of xDSL markets and in providing voice competition. For example, following the introduction of functional separation of the incumbent operator BT and the creation of the separate access division, Openreach, there has been a significant and substantial increase in the take-up of unbundled local loops by alternative communications providers in the United Kingdom. According to figures from the Office of the Telecommunications Adjudicator (OTA)\(^3\), the number of unbundled local loops for communication providers reached 2.247 million lines by May 2007: there were less than 200,000 lines unbundled prior to the introduction of functional separation in the United Kingdom. At the end of 2006 France had 2.1 million fully unbundled local loops and the total for the EU was 4.1 million fully unbundled lines at the end of 2006 representing 7.5% of total lines in the EU.

**Figure 2-2**

\(^3\) http://www.ofita.org.uk/charts.htm.
Figure 2-2 clearly illustrates that LLU represents 7.53% of the PSTN lines in the EU, provides 46% of DSL new entrants with access to broadband network. Fully unbundled lines increased by 79.3% over 2006. Germany and France have been the principal contributors to the growth of full unbundling, while Italy, the Netherlands and Portugal have also played an important role.

Many operators seem to have chosen full unbundling over shared access, since this allows them to provide a full set of services (voice, data and video) independently of the incumbents. In addition, it allows alternative operators to provide single billing to their customers and permits market operators to modify the characteristics of the service in a competitive way.⁴

The TRA while handling Full LLU should be careful in requiring a fine and delicate balancing of strategic issues, as well as discretion, bearing in mind the local situation and the prevailing incumbent operator’s attitudes. The primary purposes of the TRA should be, to ensure that small/new operators can compete in the wholesale broadband market and that consumers enjoy the best possible products at a reasonable price and to encourage the optimal level of competition in the provision of those services. On the one hand, unbundling can stimulate the development of a soundly based, competitive broadband service market over the incumbent’s access infrastructure. However, unless loop prices are very carefully weighed, it may encourage inefficient players into the market and deplete investment by the incumbent while simultaneously deepening its dominance.

**a- The Role of the TRA:**

The TRA’s role is of utmost importance to ensure the successfulness of introducing and implementing Full Local Loop Unbundling in the Bahraini market. Full Local Loop Unbundling is not an event; it is a process that needs to be sketched in a fair and non discriminatory manner to ensure reaching the objectives and benefits specified by the TRA. Batelco as an abnormal dominant operator that controls more than 90% of the whole market will surely oppose the implementation of Full Local Loop Unbundling. The TRA should fully understand that Batelco,

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⁴ The EUROPEAN ELECTRONIC COMMUNICATIONS REGULATION AND MARKETS 2006 (12th REPORT), a commission staff working document.
as any dominant operator in the world, will do its best to stall and hinder the implementation of Full Local Loop Unbundling.

One of the essential functions of the TRA is to establish ways to motivate Batelco to implement the Full LLU process. Lightspeed understands that creating such an incentive is even more difficult when Batelco is already providing xDSL services. Therefore for the sake of implementing Full Local Loop Unbundling in Bahrain, we believe that the TRA’s role in sketching the process to implement Full LLU should be directed towards the following points:

1- A delivery schedule should be established with defined and binding milestones and timeframes.
2- The delivery schedule should support the general principle of providing Full LLU on an exchange by exchange basis.
3- Space availability: the incumbent may claim that the exchange space is constrained in order to lay obstacles before OLOs while OLOs will be skeptical of the responses by the incumbent. It is therefore advised that the TRA should establish a process to monitor closely and confirm the space availability in Batelco’s premises so that such information can be used in implementing the LLU process.
4- Structural integrity: the equipment installed by OLOs will add to the floor loading of the exchange building, especially if there are multiple licensed operators sharing the space. Batelco may desire to conduct a review of the additional floor loading. The TRA should be alerted that this is surely a chance for Batelco to use these studies as an excuse to hold-up the unbundling process.
5- Environmental system: the OLOs equipment will need to operate in a stable, controlled environment, as does Batelco’s own equipment in the exchange building. As with structural integrity, the TRA should make sure that such environment is available within a specified period.
6- Ducting and MDF capacity: An assessment by the TRA will need to be conducted on whether there is enough space for the tie cable extended between the OLO collocated equipment and Batelco’s MDF.
7- A detailed flow process, including all relevant issues such as space requirements, for applications for collocation space will need to be developed.
8- Batelco should provide promptly all information on its copper access network requested by OLOs. All information provided by
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Batelco should be supervised and monitored by the TRA to ensure that the information is updated and is free of charge.

b- Collocation

Collocation is the process locating equipment of the licensed operator at the incumbent Batelco’s telephone exchange area. Usually this equipment will consist of transmission equipment and fibre which connects the exchange to the OLOs exchange and routers located in another building.

Collocation for Full LLU must be seriously considered during the implementation of the Full LLU. Issues that arise from collocation may include the incumbent Batelco claiming that there is not enough physical space available for OLOs, for in some cases that the licensed operator’s digital equipment, which is much more compact, cannot be installed if there is an uncontrolled number of new entrants. If this occurs it may result in a scarcity of floor space, which will mean that few of the new entrants may really deploy their businesses nationally, thus causing inconvenience to or denying serious new entrants’ access to the market. It is therefore important that the TRA should ensure that it is appropriately capacitated to be able to deal with all issues on collocation.

Lightspeed believes that the following are major key issues that need to be taken into consideration:
- The claim by the incumbent Batelco that there is no space in the relevant exchange;
- The application of overly onerous technical requirements on the OLO’s equipment as opposed to the equipment used by Batelco itself;
- Discriminatory security measures;
- The requirement by the incumbent Batelco that a licensed operator takes a minimum amount of space.
- The requirement that a licensed operator cannot interconnect with OLOs within the exchange or that if the two do interconnect, the interconnections must be purchased from the incumbent Batelco;
- The allocation of all site preparation costs to the first coming licensed operator regardless of whether all costs are attributable to him or not.
- Failure to allow collocation in adjacent buildings.
- Lack of provision of information on space availability.

Lightspeed would like to comment on the rule of (First in First Served): Lightspeed believes that the process associated with such a rule needs to
be more detailed leaving no room for loopholes. Several inquires are raised regarding when will be the starting date to submit requests for collocation and how will Batelco deal with requests submitted in the same date or in the same hour. We emphasize that such a process should be controlled solely by the TRA and implemented by Batelco. One of the scenarios that we would suggest is for OLOs requiring such a service to send to copies one for the TRA and for Batelco thereby ensuring that the priority order of submitted requested will not manipulated by Batelco or hold any sort of confusion to all parties.

Lightspeed believes that the field tests during the experimental phase should be free of charge including all what would be needed for testing the LLU, (i.e., collocation, Number Portability, ...etc).

c- **Backhaul services**

An operator supplying broadband services via unbundled loops needs a backhaul connection between its equipment (DSLAM) in a co-location facility at or nearby Batelco local exchange and its own network. Lightspeed stresses that the TRA should direct Batelco to provide cost orientated backhaul services.

Lightspeed stresses that backhauling is an essential element for the successful implementation of the Full LLU. It should be available and guaranteed to ensure the success of the full local loop Unbundling implementation. Operators will need a specified and dedicated capacity, similar to a leased line for backhaul purposes.

Lightspeed stresses that Batelco should also be prepared to provide operators with backhaul for narrowband PSTN services provided over unbundled local loops. Lightspeed therefore urges the TRA to ensure that the incumbent Batelco provides backhaul at cost orientated prices.

Further, Lightspeed requests that Batelco should sign a service level agreement (SLA) with OLOs that guarantees that backhaul services will be provided on reasonable terms including terms for provisioning and repair.

d- **Provisioning**

Provisioning is also a very delicate process that needs to be sketched fairly and regulated by the TRA to ensure the effectiveness of same. Lightspeed emphasizes the importance of addressing the timeliness of provisioning and the complication of such a process. The TRA should anticipate anti competitive behaviors to be conducted by the incumbent
to prevent and/or stall the implementation of Full LLU. The following may need to be considered in picturing the provisioning process:

- **Forecasting:** It is very important to establish that not meeting forecasts due to the incumbent's anti-competitive behaviors should impose penalties on the incumbent operator. Forecasts are simply indicators to understand the performance of the market for the near future. The incumbent should never use it as a tool to burden its competitors with financial penalties. The TRA should never allow Batelco to conduct such practices in the market.

- **Ordering:** A description of the process of ordering, detailing the main steps and timeframes is needed. This should be bound with the acknowledgement by the incumbent that an order has been received and specify the minimum lead-time to fulfill the order. A certain number of batches to process the order should not be allowed by the TRA. Batelco should accept individual orders and should not discriminate while doing so with its retail arm.

**e- Implementing Fixed Number Portability (FNP):**

Number portability has been described by the ITU as a fundamental prerequisite for competition in a telecommunications market. More importantly, the EU has recognized that “in markets where LLU is the only alternative for access, the rate of Fixed Number Portability adoption is directly correlated with the success of LLU.”

Worldwide, Fixed Number Portability is making a significant contribution to the increasing competitiveness of telecommunications markets especially when implementing Full Local Loop Unbundling. While Lightspeed applauds the TRA intention to implement Fixed Number Portability in the Bahraini market, Lightspeed emphasizes that Fixed Number Portability synchronization with Full Local Loop Unbundling is required to ensure fair and effective competition and efficient investments. Concretely, synchronization consists in granting the possibility for an access seeker to order Full Local Loop Unbundling and Fixed Number Portability on a single order and guaranteeing that the delivery of Full Local Loop Unbundling will be synchronized with Fixed Number Portability.

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Maximizing the adoption of fixed number portability within the EU: An empirical analysis. Telecommunications Policy, Volume 31, Issue 5

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Cut-off period which is a major end-user’s concern, as voice service is interrupted, must be reduced to the minimum. Otherwise, it would have significant impact on end-user’s experience causing damage to competition and ultimately to the development of the market and the choice of customers. In order to avoid such drawbacks and ensure the effective implementation of Fixed Number Portability synchronization, we believe that a Service Level Agreement on cut off period is also needed.

**f- Quality of Service:**

Quality of Service (QoS) associated with wholesale access products is the key operational issue and is particularly crucial for the success of Full Local Loop Unbundling. On one hand this has a direct impact on the service provided to the end user, on the other hand it is a key factor for process optimization and rationalization for operators in the market. The incumbent Batelco has the potential to leverage this into downstream retail markets, by providing a different QoS to different wholesale customers. This will have a material impact on competition in retail markets, ultimately to the detriment of retail customers.

Lightspeed urges the TRA to ensure a reasonable level of certainty that new entrants will be able to compete on a level playing field. This implies that measures are in place to provide an effective deterrent to obstructive and foot-dragging behavior. There should be assurance that the Full Local Loop Unbundling product will be of high quality and that service levels (delivery times, cut-off period, repair times ...) will be reasonable and comparable with that provided to the incumbent’s own retail arm. A mere non-discrimination obligation will also help to provide such assurance.

Lightspeed strongly believes that additional ex-ante controls on the LLU product quality of service should be imposed and maintained until effective competition is established in the market, these ex-ante regulations are such as:

(a) Requirement to set reasonable time frames through a Service Level Agreement (SLA) at least sufficient to allow effective competition in the downstream markets with the Incumbent’s retail offers.
(b) Requirement to pay appropriate compensation for service below the level agreed. This compensation should be of a sufficient level to create an incentive for the incumbent to comply to the service level agreed as it will often prove unsatisfactory to deal with each new QoS problem by enforcement or dispute settlement;
(c) Requirement to publish Key Performance Indicators (KPI) which allow identifying where potential discrimination exists. This set of KPIs could be set so as to ensure non discriminatory behavior by the incumbent in comparison with its own retail downstream arm.

Lightspeed stresses that in line with international best practice, the TRA should supervise and ensure SLA provisions including detailed compensation mechanisms/models as part of Batelco’s RO. Similarly, the TRA should ensure that relevant KPIs are implemented and monitored.
Specific Comments

In addition to the General Comments stated above, Lightspeed is submitting its response and specific comments on the list of questions raised by the TRA in the published documents for public consultation. Our general and specific comments should be read together.

a- Questions raised in the Consultation on the Draft Access Order Schedule 2.

Question 3.1:
Do you agree with TRA’s proposition to implement only Full LLU for the time being? Please elaborate.

Answer:

Lightspeed strongly supports the TRA’s proposition to implement Full Local Loop Unbundling on an exchange by exchange basis for the time being.
Lightspeed stresses that Line Sharing (LS) is by no means a prerequisite for the successful implementation of LLU in the Kingdom of Bahrain.
Lightspeed strongly believes that the relationship between end users and the incumbent Batelco should cease to exist. This is not the case when providing the LS service. LS will always enable Batelco to have a mandatory contractual relationship with end users.

International experience, as shown below in Figure 1, specifically in the EU shows that Full Local loop unbundling is the main wholesale access for new entrants continuing to replace LS and Bitstream access with 46.5% of DSL lines in July 2008, whereas LS has a lower percentage of 18.8% of DSL lines and Bitstream 15.7% of DSL lines. There is a clear indication that new entrants prefer the take up of LLU as a type of access for the provision of broadband services.⁶

⁶ Communications Committee, Working Document, Subject: Broadband access in the EU: situation at 1 July 2008.
Further, Lightspeed emphasizes the importance of implementing Fixed Number Portability, as stated in our general comments, in parallel and during the implementation of Full Local Loop Unbundling. This is of utmost importance to ensure that end users (Residential and/or Corporate) are not obligated or mandated to enter into a contractual relationship with the incumbent for the purposes of keeping the same phone number.

**Question 3.2:**
Do you agree with TRA’s proposition not to implement SLU for the time being?

**Answer:**

Lightspeed fully supports the TRA in not introducing SLU to the market at the current time due to the high costs associated with the implementation of SLU and the few benefits resulting from it. Lightspeed is of the opinion that such an approach may be reviewed after the successful implementation of Full Local Loop Unbundling in the future.
Question 3.3:
Do you agree with TRA’s proposition that non-active lines for which there is capacity at the main network level and at the distribution level should be unbundled? Please elaborate.

Answer:

Lightspeed totally agrees with the TRA’s proposition that non-active lines for which there is capacity at the main network level and at the distribution level should be unbundled. We strongly believe that such an approach will increase the internet penetration level in the market and will help in establishing efficient and effective competition in all sub markets. Further, the application of the non-discriminatory principle, obligates the TRA to direct Batelco to unbundle non-active lines hence Batelco can use these non-active lines to compete on the retail level.

Lightspeed would like to inquire on the condition set out in the phrase above “which there is capacity”. A question that is really important to us is will capacity be determined based on Batelco’s sole discretion or will the TRA supervise all the MDF locations in the Kingdom to ensure the availability of capacity for non-active lines. Lightspeed stresses that the TRA should always closely supervise Batelco market behavior and study carefully any order, request and/or application refused by Batelco on the basis that capacity is not sufficient. Failing to do so will give Batelco more room to abuse its market powers and abuse of dominance.

In addition and as mentioned in our general comments, Batelco should provide and without any delay the complete information for all active and non-active lines free of charge and in an updated manner.

Question 4.1:
Do you agree with TRA’s proposition that the list of MDFs with their category of size and the location of these MDFs on a map (except the ones for which valid national security reasons prevent their location being made public) with their coverage area should be made available free of charge by Batelco on simple request subject to a confidentiality agreement signed by the OLO as soon as possible after the issuance of the Order? Please elaborate.
Answer:

Lightspeed highly supports the TRA in such a proposition hence the attractiveness of Full LLU is sensitive to economies of scale/densities. Batelco should provide OLOs in advance with a list of MDFs with their category of size and the location of these MDFs on a map with their coverage area free of charge. Batelco should not stall in providing the complete and updated information due to the high importance of time to be reflected on how OLOs will design their business operations. Further, valid security reasons that prevent certain MDFs made public should be under the sole discretion of the TRA.

Question 4.2:
Do you agree with TRA’s proposition to organize LLU field tests? Do you agree with the proposed timing? What is your opinion on the site selection proposition? What is your opinion on the OLOs’ selection proposition? Please elaborate.
Do you think that other collocation options than the two currently proposed should be envisaged for the LLU field tests?
If as an OLO you are interested in participating in LLU field tests, please specify to which of your network sites backhaul would have to be provided by Batelco.

Answer:

Lightspeed supports the TRA proposition of conducting field tests, this will prove to be a very useful exercise for all stakeholders to identify the problems that might be associated in the future with the implementation of Full Local Loop unbundling in Bahrain. Lightspeed stresses that Backhauling, such as Dark Fibre or utilizing Batelco’s ducts, should be available and guaranteed to ensure the success of the implementation of Full LLU. A proper regulatory framework that stimulates competition and ensures the success of Full Local Loop Unbundling should be placed for the purposes of Backhauling.

Further, Lightspeed would like to state that the field tests and in effect the testing period will be free of charge for operators who are testing, as this is an experiment.

Question 4.3:

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Do you agree with TRA’s proposition to organize capacity building workshops on the LLU offer (to be included in the RO) prior to LLU implementation? What is your opinion on the proposed agenda and timing of these workshops?

**Answer:**

Lightspeed applauds the TRA proposition to organize capacity building workshops on the LLU offer prior to LLU implementation and emphasizes that the proposed agenda and timing of these workshops should be fixed and addresses all issues resulting from the implementation of Full Local Loop Unbundling. Lightspeed further emphasizes on the view of Batelco building a dedicated taskforce as being a necessity and not an option. Batelco should be obliged to provide whatever necessary resources (i.e. human, equipment, enabling features such as Number Portability etc..) in order to accomplish the needed requirements of the field tests for LLU. In part we see this as a positive and a much-needed move mostly due to Lightspeed’s experience on the ‘Project: Code Red’ in which Batelco dedicated a team in solving the problems we were facing previously with our customers.

**Question 5.1:**
Do you agree with TRA’s proposition to determine full LLU prices on an interim basis? Please elaborate.

**Answer:**

It is important that the costing and pricing rules for local loops and related facilities should be fair and benchmarked by international standards. Setting such an environment requires a regulatory muscle and an honest participation of the operators. Pricing rules for local loops should foster fair and sustainable competition where strategies such as investing in technology and services are a cornerstone for success. Furthermore, they should ensure that there is no twisting of competition, in particular that there is no unfair discrepancy between prices of wholesale and retail services of the notified operator. The offer should be adequately unbundled that the customer does not have to pay for network elements or amenities which are not necessary for the supply of its services.
Experience shows that the regulatory intervention is an effective mechanism for reaching agreement on technical and pricing issues for local loop access.

Lightspeed therefore, believes that such an issue can be further discussed in the consultation paper to be issued by the TRA later in 2009. Nonetheless, we believe that for the time being indicative prices should be proposed by the TRA, such prices should be transparent and non discriminatory and should be fair making it feasible for OLOs. To be clear, for the testing or experimental phase, this will be free of charge.

**Question 5.2:**
Do you agree with TRA’s proposition that “price on application” should be avoided in Batelco’s LLU RO? Do you also agree with TRA’s proposition to avoid possible upfront fees and to transform possible upfront fees into recurring charges?

**Answer:**

Lightspeed strongly supports the TRA proposition that price on application should always be avoided to prevent Batelco from abusing its discretion by setting unfair and unreasonable charges and/or fees on OLOs. OLOs should always know in advance the amount required to obtain the service, this will have a tremendous effect on how OLOs design and build their operations. Further to this, Lightspeed stresses on the point that ancillary service upfront fees should be annualized and transformed into recurring fees and thus Lightspeed strongly supports the TRA’s belief in this regard since annualized upfront fees-as stated by the TRA- help OLOs to realize their business plans since their entry is less deterred by the barrier of high upfront costs whilst also allowing the incumbent to recover costs.

**Question 6.1:**
Do you agree with TRA’s non-discrimination approach that should guide the definition of operational processes and the drafting of the LLU offer? Do you agree with TRA’s proposition to request from Batelco a description of its relevant internal processes for the purpose of the Approval of the LLU Reference Offer?

**Answer**
Lightspeed supports the non-discrimination approach and strongly believes that it should guide the definition of operational processes. Lightspeed emphasizes that the application of such an approach will ensure that Batelco does not favor its own retail arm while granting access to its local loop. Batelco’s historical behavior in the market clearly shows that Batelco has conducted such anti-competitive behaviors in the past. Lightspeed stresses that the TRA should ensure that Batelco provides continuous and up to date updates of its internal processes to all licensed operators in the market.

Lightspeed emphasizes that the drafting of the LLU offer should only rely on Batelco’s own processes and practices to the extent that such processes and practices do not stall or damage the successful implementation of Full Local Loop Unbundling. The TRA should always monitor and direct Batelco to reengineer its internal processes in order to meet this objective. Failing to do so will give Batelco an excuse to stall or refuse to implement its obligations under the Reference Offer.

**Question 6.2:**
Do you agree with TRA’s approach to the provision of specific information related to LLU within the LLU RO of Batelco? Which items of the list above are relevant in the specific context of LLU implementation in Bahrain and should be included in the LLU RO? What are the objective criteria to be used for assessing whether an item of the list above should be considered commercially sensitive in the specific context of LLU implementation in Bahrain?

**Answer:**

Lightspeed totally agrees with the TRA’s approach to the provision of specific information. Lightspeed believes that all items should be included in the LLU RO. Lightspeed emphasizes that it is of utmost importance that incomplete information does stall the implementation of Full LLU.

**Question 6.3:**
Do you agree with TRA’s view that both a cost-oriented LLU backhaul offer from the incumbent and enabling backhaul built by OLOs are necessary? If yes, could you please detail your expectations for the LLU backhaul offer to be provided by Batelco (bandwidth of backhaul, type of protocol, etc.)?

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Could you also please detail your expectations in terms of self-providing LLU backhaul (e.g. deployment of fibre into Batelco’s Service Node) or purchasing LLU backhaul from another OLO?

**Answer**

Lightspeed stresses that backhauling is an essential element for the successful implementation of Full Local Loop unbundling thereby affecting the quality of service delivered by OLOs. TRA should monitor closely and heavily regulate the backhauling service. Lightspeed believes that dark fibre, utilizing Batelco’s ducts, and or a Giga Ethernet to ensure a stable and constant bandwidth for OLOs is the best options for backhauling. Lightspeed also believes that other methods of backhaul could potentially be viable such as microwave links or utilizing third party infrastructure.

**Question 6.4:**
Do you agree with TRA’s proposed rule for space allocation?
Do you agree with TRA’s proposed specific process for space allocation for the very first collocation ordering?
Is there any justification for such a coordinated approach to be envisaged after the very first collocation ordering for subsequent orderings? Please elaborate.

**Answer**

Lightspeed emphasizes that the TRA should always control the condition of availability and not make any room for Batelco to refuse requests for space allocation on the basis of non availability without closely monitoring the reasons that Batelco has based its decision on. In all cases the TRA should have the final decision in whether availability exists or not.

There needs to be a clear process for collocation order handling that needs to be managed and supervised by the TRA. Again, Batelco will try its best to delay the collocation of other equipment at its premises. The TRA should ensure that Batelco is acting in a fair and transparent manner. Further, Lightspeed believes that alternative solutions should be provided by the incumbent Batelco in case of rejection. It is important to emphasize that time is of great essence in such a case. The TRA should monitor the process to ensure that it is fair and transparent and non discriminatory. We also believe that two copies should be sent by OLOs when processing their orders, one for the incumbent Batelco and the other for the TRA to monitor and supervise Batelco’s obligations in meeting timeframes and deadlines.

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**Question 6.5:**
What are your views on how to implement the “Use it or Lose it Rule”? Please explain in detail.

**Answer:**

Lightspeed supports such a principle to the extent that not using or not providing the service is not due to the anti competitive behaviors of the incumbent. OLOs should not be held responsible for not meeting any obligation(s) in the RO due to Batelco’s faults and delaying tactics. This should be a rule of thumb that the TRA should establish in the market. The TRA should understand that Batelco will use its best endeavors to delay the implementation of the service, such delays should not fall under the "Use it or lose it" rule.

**Question 6.6:**
Do you agree with TRA’s proposition to allow end-users to sign a document authorizing an OLO to perform all the necessary actions with the incumbent for having their line unbundled, including fixed number portability when appropriate?
Do you agree with TRA’s proposition that the consequences of terminating the contract with Batelco should not be a barrier to change from Batelco to an OLO?

**Answer:**

Lightspeed fully supports the TRA proposition and believes that it will help in eliminating the mandatory contractual relationship between end users and the incumbent. Further, Lightspeed totally agrees that the consequences of terminating the contract with Batelco should not be a barrier to change from Batelco to an OLO. Lightspeed further stresses the importance of including fixed number portability in the process of unbundling.

**Question 6.7:**
Do you agree with TRA’s suggestion to request Batelco to release the ANFP for the field tests to occur in mid-2009 in Bahrain?

**Answer:**

Lightspeed fully supports such a proposition bearing in mind that specific timeframes should be adhered to by all parties.

**Question 6.8:**

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Do you agree with TRA’s proposition not to implement bulk migration in LLU implementation?

**Answer:**

Lightspeed envisages that it will unbundle the necessary exchanges from time to time following the process as stated. However at Day 1, a bulk number of exchanges will have to be unbundled for the OLO’s to launch its services. We estimate 10 to 15 exchanges must be fully unbundled and ready for OLO’s. After launch, Batelco under the control of the TRA will be committed to unbundle the remaining exchanges within an appropriate period of time, which we estimate to be one 1 year (12 months) from the date of commercial launch of LLU.

**Question 6.9:**
Do you agree with TRA’s proposition for the forecasts to be done by OLOs?
Do you agree with TRA’s proposition that OLOs should not pay any penalty if their orders for LLU services are different from forecasts? Do you agree with TRA’s proposition that provisions are required to take into account forecasting tolerances? Please elaborate.

**Answer:**

It is very important to establish that not meeting forecasts by OLOs should not result in penalties, on the contrary in cases where OLOs do not meet their forecasts due to the incumbent’s anti competitive behaviors this should lead to imposing penalties on the incumbent operator. Forecasts are simply indicators to understand the performance of the market for the near future. The incumbent should never use it as a tool to burden its competitors with financial penalties. The TRA should never allow Batelco to conduct such practices in the market. To be clear, Lightspeed wants to be transparent and open to Batelco in providing its own forecast, but such forecasts will never be used as a commitment.

**Question 6.10:**
Do you agree with TRA’s list of a minimal set of parameters for SLAs that should be associated with LLU?

**Answer:**

Lightspeed agrees with the TRA’s list of a minimal set of parameters for SLAs that should be associated with LLU. Lightspeed stresses that the minimal set of parameters for SLAs that should be associated with LLU

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minimal must include the needed power for collocated equipment, the needed air-conditioning, the needed safety equipment, and an ease and safety access to our collocated network equipment.

**Question 6.11:**
Please specify and justify the value for the following parameters of SLAs:
1) validation time for:
   - Full LLU line provisioning
   - Information provisioning
   - Internal Tie cable provisioning
   - External Tie cable provisioning
   - Dedicated Collocation space provisioning
   - Co-Mingling space provisioning
   - Shelter space provisioning
   - Backhaul provisioning by incumbent

**Answer:** (KPI/SLA’s to be validated.) Final KPI values should be agreed in light of the experiment phase conclusion and outcomes.

<table>
<thead>
<tr>
<th>Item</th>
<th>Value (Validation time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full LLU line</td>
<td>2 calendar weeks</td>
</tr>
</tbody>
</table>

Confidential
<table>
<thead>
<tr>
<th>Service Type</th>
<th>Delivery Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information provisioning</td>
<td>10 calendar days</td>
</tr>
<tr>
<td>Internal Tie cable provisioning</td>
<td>15 calendar days</td>
</tr>
<tr>
<td>External Tie cable provisioning</td>
<td>15 calendar days</td>
</tr>
<tr>
<td>Dedicated Collocation space provisioning</td>
<td>1 calendar week</td>
</tr>
<tr>
<td>Co-Mingling space provisioning</td>
<td>1 calendar week</td>
</tr>
<tr>
<td>Shelter space provisioning</td>
<td>1 calendar week</td>
</tr>
<tr>
<td>Backhaul provisioning by incumbent</td>
<td>5 days</td>
</tr>
</tbody>
</table>

2) delivery time for:
- Full LLU line provisioning
- Information provisioning
- Internal Tie cable provisioning
- External Tie cable provisioning
- Dedicated Collocation space provisioning
- Co-Mingling space provisioning
- Shelter space provisioning
- Backhaul provisioning by incumbent

**Answer:**

Confidential
<table>
<thead>
<tr>
<th>Item</th>
<th>Value(Delivery time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full LLU line provisioning</td>
<td>10 working days</td>
</tr>
<tr>
<td>Information provisioning</td>
<td>10 working days</td>
</tr>
<tr>
<td>Internal Tie cable provisioning</td>
<td>20 working days</td>
</tr>
<tr>
<td>External Tie cable provisioning</td>
<td>20 working days</td>
</tr>
<tr>
<td>Dedicated Collocation space provisioning</td>
<td>30 working days</td>
</tr>
<tr>
<td>Co-Mingling space provisioning</td>
<td>30 working days</td>
</tr>
<tr>
<td>Shelter space provisioning</td>
<td>30 working days</td>
</tr>
<tr>
<td>Backhaul provisioning by incumbent</td>
<td>30 working days</td>
</tr>
</tbody>
</table>

3) Problem resolution time for:
- Fault clearance
- Backhaul repair

**Answer:**
Confidential
<table>
<thead>
<tr>
<th>Item</th>
<th>Value (Problem resolution time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault clearance</td>
<td>90%: 72 calendar hours</td>
</tr>
<tr>
<td></td>
<td>99%: 144 calendar hours</td>
</tr>
<tr>
<td>Backhaul repair</td>
<td>8-12 calendar hours</td>
</tr>
</tbody>
</table>

4) Access to Service Nodes

Lightspeed understands Access to Service Nodes by the maximum time needed by Batelco to allow OLO to access to their collocated network equipment. This time should be within one hour from asking for such access.

**Question 6.12:**
Comments are requested with respect to the proposed establishment of SLAs.

Lightspeed believes that:
- The proposed establishment of SLAs should guarantee that LLU provision must maintain and will be done with a known level of quality of service.
- Penalties should be imposed on Batelco if it fails to maintain known level of quality of provided LLU service.
- If the OLO needs better level of quality than the known level of the quality described by The proposed establishment of SLAs then Batelco should provide this reasonable approved by TRA cost.
- TRA should monitor the management of the SLAs.

**Question 7.1**
What is the minimal set of KPIs for LLU that should be measured on a monthly basis and published by Batelco on its website? Do you agree with TRA’s intention to request Batelco to measure and publish the corresponding minimum set of KPIs for other wholesale and retail products necessary to assess prima facie compliance with non-discrimination?
**Answer:**

The minimal set of KPIs for LLU that should be measured on a monthly basis and published by Batelco on its website:

<table>
<thead>
<tr>
<th>KPI</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume of orders completed - Aggregate</td>
<td></td>
</tr>
<tr>
<td>% of Pre Order Enquiries accepted, completed within target - Shared MPF</td>
<td>98%</td>
</tr>
<tr>
<td>% of Pre Order Enquiries accepted, completed within target - MPF</td>
<td>98%</td>
</tr>
<tr>
<td>% of pre order enquiries non-fatally rejected - Shared MPF</td>
<td></td>
</tr>
<tr>
<td>% of pre order enquiries non-fatally rejected - MPF</td>
<td></td>
</tr>
<tr>
<td>% of pre order enquiries fatally rejected - Shared MPF</td>
<td>15%</td>
</tr>
<tr>
<td>% of pre order enquiries fatally rejected - MPF</td>
<td>15%</td>
</tr>
<tr>
<td>Average lapse time from order receipt to Customer Agreed Date - Shared MPF</td>
<td></td>
</tr>
<tr>
<td>Average lapse time from order receipt to Customer Agreed Date - MPF</td>
<td></td>
</tr>
<tr>
<td>% of line characteristics provided within two days</td>
<td></td>
</tr>
<tr>
<td>LLU Plan &amp; Build Orders Success Rate - (4 week Rolling Average)</td>
<td></td>
</tr>
<tr>
<td>The percentage of full survey issued to operators within 40 Working Days of an operator’s request for such survey</td>
<td>85%</td>
</tr>
<tr>
<td>The percentage of Works provided to operators and completed on or before Target Date.</td>
<td>85%</td>
</tr>
<tr>
<td>% of repeat faults (occurring within 30 days of the previous fault clear)</td>
<td></td>
</tr>
<tr>
<td>% of faults escalated to Level 2</td>
<td></td>
</tr>
<tr>
<td>% of standard care faults repaired in 28 working hours</td>
<td></td>
</tr>
<tr>
<td>% of total care faults repaired in 24 clock hours</td>
<td></td>
</tr>
<tr>
<td>Early Life Failures - fault reported within 28 calendar days of installation - Shared MPF</td>
<td>3%</td>
</tr>
<tr>
<td>Early Life Failures - fault reported within 28 calendar days of installation - MPF</td>
<td>7.5%</td>
</tr>
<tr>
<td>Dead on Arrivals - fault reported within 4 calendar days of installation - Shared MPF</td>
<td></td>
</tr>
<tr>
<td>Dead on Arrivals - fault reported within 4 calendar days of installation - MPF</td>
<td></td>
</tr>
<tr>
<td>% of Shared faults cleared - 40 clock hours</td>
<td>80%</td>
</tr>
<tr>
<td>% of MPF faults cleared - 40 clock hours</td>
<td>80%</td>
</tr>
<tr>
<td>% of Shared MPF faults cleared - Enhanced Care - 20 clock hours</td>
<td></td>
</tr>
<tr>
<td>% of MPF faults cleared - Enhanced Care - 20 clock hours</td>
<td>80%</td>
</tr>
</tbody>
</table>

Lightspeed supports the principle of having Batelco to measure and publish the corresponding set of KPIs for all wholesale and retail products necessary for the implementation of Full Local Loop unbundling.

**Question 7.2:**

Do you agree with TRA’s proposition to publish a LLU scorecard that would include: (a) the number of unbundled lines; (b) the number of Confidential
unbundled MDFs; and (c) the LLU coverage on the basis of a map once LLU is commercially launched? Do you see other indicators that should be included in this scorecard?

**Answer:**
Lightspeed supports such an approach. Further to these indicators, the following need to be added as well: a) number of applied unbundled lines compared to lines physically unbundled, b) time period of unbundling the lines, c) the number of unbundling faults. Lightspeed further advises that an independent 3rd party to publish a report on TRA's performance with respect to LLU, which relates to their responsibilities and achievements as a regulator.

**Question 7.3:**
Do you agree with TRA’s proposition to create a Working Group on LLU Operations and Service Schedules that will review the progress of LLU and suggest amendments to the LLU RO? Do you also agree with TRA’s opinion that the evolution of and amendments to the ANFP should also be discussed within a Working Group on ANFP?

**Answer:**
Lightspeed agrees with the TRA proposition in the raised questions. Lightspeed advises that the Working Group should be established immediately to start the dialogue between OLO’s, the TRA, and Batelco on LLU.

**Question 8.1:**
Do you agree with TRA’s opinion that structural separation should not be considered at the current time but should be envisaged in the future if TRA determines the existence of anti-competitive practices by the incumbent such that LLU deployment is stymied?

**Answer:**
Lightspeed believes that structural separation is an option that many regulators around the world are examining and implementing. We agree with the TRA that the current time is not a proper time to implement structural separation. This option should be assessed seriously at later stage if the implementation and outcome of LLU is not successful.

**Question 9.1:**
Do you agree with the TRA on the key milestones for the LLU implementation phase?
Answer:
Lightspeed supports the TRA on the proposed key milestones for the LLU implementation phase.

b- Questions raised in the Consultation Paper on the Regulation of Wholesale Broadband Markets.

Question 1: Do you agree with TRA's opinion that LLU and Bitstream are complementary wholesale products required in order to promote competition? Please elaborate.

Answer:
Lightspeed emphasizes and reaffirms what was mentioned in its general and specific comments that Full LLU and Bitstream are wholesale products that have proven worldwide to be a major simulator for competition in many of the member states in the EU.

Question 2: Do you agree with TRA's opinion that, having LLU and Bitstream in place, regulation of Wholesale DSL is no longer necessary, subject to appropriate safeguards? Please elaborate.

Answer:
Lightspeed stresses that no regulation should be withdrawn from the market until the market practically sees the positive results of effective competition resulting from the successful implementation of Full Local Loop Unbundling. It is essential to understand the importance of having all services regulated until effective competition is completely established in the market and all operators are at an equal level playing field. It is therefore that Lightspeed strongly stresses Wholesale DSL should remain as a regulated product until market conditions change and the level of competition in the market is effective among operators.

Question 3: Do you agree with TRA's proposals regarding the withdrawal of Wholesale DSL as a regulated product, and in particular with the proposed safeguards? Please elaborate.

Answer:
Lightspeed refers to its answer of Question 2.

Question 4: Do you agree with TRA's opinion that, taking into account the technical and economic viability of installing competing facilities in light of the level and rate of market development, it is no more than appropriate and necessary to address the market failure identified to impose upon Batelco an obligation to provide LLU? Please elaborate.
Answer:
Lightspeed stresses that Batelco is an abnormal dominant operator in the market and has been for a long period of time. To establish effective competition in the market, there are simply two options; the first is to duplicate the infrastructure and network of the incumbent. This option is not in line with international best practice as mentioned in our General Comments, it will not be economically efficient for the Kingdom of Bahrain (Macro and Micro Levels) to choose such an option. Further, it is nearly impossible in a country like Bahrain where space is limited and the return on investment cannot be justified for investors. The second and only option is to allow OLOs to use the network of the incumbent by imposing LLU. Lightspeed sees no other efficient option to increasing and establishing effective competition in the Bahraini market.

Question 5: Do you agree with TRA’s opinion that, taking into account the feasibility and efficiency of providing the form of access, particularly in light of the available capacity, it is no more than appropriate and necessary to address the market failure identified to impose upon Batelco an obligation to provide LLU? Please elaborate.

Answer:
Lightspeed refers to its answer on Question 4.

Question 6: Do you agree with TRA’s opinion that, taking into account the TRA’s duty to safeguard and encourage the long-term development of competition and the long-term interests of end-users, it is no more than appropriate and necessary to address the market failure identified to impose upon Batelco an obligation to provide LLU? Please elaborate.

Answer:
Lightspeed agrees with the TRA in its opinion and refers to its answer in question 4.

Question 7: Do you agree with TRA’s overall conclusion that it is no more than appropriate and necessary to address the market failure identified to impose upon Batelco an obligation to provide LLU? Please elaborate.

Answer:
Lightspeed strongly supports the TRA in its overall conclusion to impose upon Batelco an obligation to provide LLU.
c- Questions raised on the Consultation Paper on Wholesale Broadband Markets Dominance Determination

**Question 1:** Do you agree with TRA’s opinion that building a new local loop is not a substitute to the LLU product? Please elaborate.

**Answer:**

Lightspeed fully supports the TRA in such an opinion and believes that building a new local loop is not a substitute to the LLU product. As it is widely known, building a new local loop is totally different in so many ways than LLU product, the benefits and features for each of these options are very distant. Accordingly, we do not believe that the option of building a new local loop and the LLU product should be in a same market.

**Question 2:** Do you agree with TRA’s opinion on access to ducts? Please elaborate.

**Answer:**

While realizing the importance of access to ducts and the obligation that Batelco should perform in sharing ducts with OLOs. Lightspeed agrees with the TRA’s opinion that access to ducts does not substitute LLU and therefore should not be part of the market definition.

**Question 3:** Do you agree with TRA’s opinion to exclude from the relevant market wholesale access to the existing NFWS local loops? Please elaborate.

**Answer:**

Lightspeed agrees with the TRA’s opinion that NFWS local Loops are not a substitute for LLU and therefore wholesale access to the existing NFWS should be excluded from the definition of the relevant market.

**Question 4:** Do you agree with TRA’s opinion to exclude from the relevant market wholesale access to the existing fibre local loops? Please elaborate.

**Answer:**

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Lightspeed supports the TRA in such an approach because wholesale access to the existing fibre local loops is not a substitute for the LLU product, accordingly it should be excluded from the definition of the relevant market.

**Question 5:** Do you agree with TRA’s opinion that LLU and Bitstream (and therefore the Wholesale DSL product) are in different relevant markets? Please elaborate.

**Answer:**
Lightspeed fully supports the TRA in such an opinion and believes that LLU and Bitstream products are two different products with different features allowing operators to provide different types of services as discussed in our general comments. These two products are clearly not substitutable and therefore should not be in the same market and since Wholesale DSL is lower than the Bitstream in the investment ladder then it is also not in the same market.

**Question 6:** Do you agree with TRA’s position that self-provision by Batelco should be included in the relevant market? Please elaborate.

**Answer:**
Lightspeed totally agrees with the TRA as highlighted in our General comments and believes that self provisioning should be in the relevant market.

**Question 7:** Do you agree with TRA’s position on the national geographic scope of the relevant market, considering the size of the country and of candidate geographic markets? Please elaborate.

**Answer:**
Lightspeed agrees with the TRA on the national geographic scope which should also include any areas to be covered in the future by Batelco or seen by the TRA to be included in this definition.

**Question 8:** Do you agree with TRA’s definition of the wholesale physical network infrastructure access market? Please elaborate.

**Answer:**
For the reasons discussed above and stated in our general comments, Lightspeed agrees with the TRA definition of the wholesale physical network infrastructure access market to include LLU, self supply by
Batelco and to exclude wholesale access to NFWS local loops and fibre local loops and Satellite and excludes Bitstream as well as Wholesale DSL and excludes access to ducts.

**Question 9:** Do you agree with TRA’s inclusion of NFWS access in the wholesale broadband access market? Please elaborate.

**Answer:**
Lightspeed agrees with the TRA’s approach based on the logical argument provided by the TRA on the basis of the indirect pricing constraints provided by NFWS licenses on the retail level.

**Question 10:** Do you agree with TRA’s analysis that self-provision by Batelco should be included in the wholesale broadband access market? Please elaborate.

**Answer:**
Lightspeed agrees with the TRA's conclusion that self-provisioning should be included in the wholesale broadband market hence the TRA has included the self supply of NFWS licensees. It will certainly be inconsistent to exclude Batelco's self supply with the treatment of self supply for NFWS.

**Question 11:** Do you agree with TRA’s conclusion that the LLU product should not be included in the wholesale broadband access market? Please elaborate.

**Answer:**
The LLU product as discussed before is not a substitute to Bitstream and therefore LLU should not be included in the wholesale broadband access market.

**Question 12:** Do you agree with TRA’s analysis that the Wholesale DSL product is a substitute to the Bitstream product? Please elaborate.

**Answer:**
Wholesale DSL and Bitstream products are very similar products and offer to a certain extent the same limitations on service differentiation. It is therefore that we believe that Wholesale DSL is a substitute to Bitstream and accordingly both products should be in the same relevant market.

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**Question 13:** Do you agree with TRA’s opinion that the geographic dimension of the market is national? Please elaborate.

**Answer:**
Lightspeed agrees with the TRA’s opinion on the matter.

**Question 14:** Do you agree with TRA’s definition of the wholesale broadband access market? Please elaborate.

**Answer:**
Lightspeed fully agrees with the definition of the wholesale broadband access market for the reasons stated above.

**Question 15:** Do you agree with TRA’s analysis that Batelco is dominant in the wholesale physical infrastructure network access market in the Kingdom of Bahrain? Please elaborate.

**Question 16:** Do you agree with TRA’s analysis that Batelco is dominant in the wholesale broadband access market in the Kingdom of Bahrain? Please elaborate.

**Answers to Questions 15, 16:**

In addition to our General Comments, Lightspeed stresses that the current telecom market conditions in Bahrain show clearly that Batelco is by far an abnormal dominant operator in the market with 100% market share in the wholesale physical infrastructure access market and more than 90% in the wholesale broadband access market. This market condition has been in the market for a long period and has resulted in a monopoly. This imbalance can be attributed to several reasons: the incumbent is in full control of the wholesale supply of critical ADSL inputs while it controls the retail internet market, the incumbent’s control of the fixed telecom market, among other dominance factors.

Most of value added services cannot be supported today with the current available capacities provided by the Internet Service Providers put together. This is due to limitations on bandwidth, infrastructure and quality of service provided by the incumbent Batelco. Lightspeed stresses that Batelco has through its continuous anti competitive behaviors managed over the past years to sustain its significant market power and eliminate several chances for the establishment of effective competition in the market.