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The Principal Advisor (I&FN)

Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg, (Old Minto Road)
New Delhi - 110002

Dear Sir

Sub: Consultation Paper No.04/2010 dated 17-March-2010 on Co-location Charges

Kindly find enclosed herewith, Etisalat DB Telecom's comments on the consultation paper on co-location charges, for your kind consideration.

With kindest regards,

For Etisalat DB Telecom Private Limited

(Dr. Vinod Kumar Budhiraja)
Chief Regulatory Officer & Authorised Signatory

CC: Chairman, TRAI

Please Reply To:

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Etisalat DB Telecom's Response to Consultation Paper on Collocation Charges

The significance of interconnection in sustaining healthy growth of telecommunication services in a multi-operator, multi-service scenario cannot be overemphasized. The Regulator is certainly mindful of the perils and pitfalls which an unregulated interconnection regime engenders. In light of the same we are deeply concerned that the TRAI has attempted to address the interconnection issue in a piecemeal manner focusing only on Co-location and ignoring other aspects of interconnection such as principles of cost-sharing, seeker-provider concept, infra-sharing, charges for using signaling links etc. which is bound to lead to sub-optimal outcomes. More significantly, the TRAI has completely overlooked its earlier exercise on interconnect exchange cum billing-clearing house which was heralded as a panacea to all interconnect related problems. Irrefutably, the approach of tackling the constituent issues individually instead of holistically leaves lacuna in the system that can be exploited. This leads to the so-called "water-bed" effect wherein a dominant operator can escalate the price of unregulated factors if some factors are subject to regulatory price controls.

The industry has been witness to a sudden dash towards introduction of SMS Termination Charges by some dominant players under the pretext that forbearance implies that the rates shall be mutually negotiated. This is clearly with the intent to make good the fall in revenue expected from a reduction in voice Termination Charge from 30p to 20p, a manifestation of the water-bed effect.

We therefore strongly feel that handling Co-location as disjoint from other interconnect related issues will not address the dominant behavioral tendencies of large operators and the only solution to address this problem is establishment of an Interconnection Exchange which TRAI had rightly envisioned in past.

In its Paper on "***New Interconnection Option: Interconnect Exchange Cum Inter-Carrier Billing Clearing House***" dated 26th March 2004; the Authority aptly observed the following:

"1.2 The opening of telecom scenario has brought a lot of value to the customers. The quality of service is improving, prices are coming down and competitive operators are offering many new services and value additions to their respective existing services. Behind this bright scene, a complexity is also developing, which if not tackled with long term perspective at the very beginning, could lead to a complex situation resulting in an increase in the cost of interconnecting network for multioperator multi-service scenario. Incumbent's Network generally in all developing countries does not have adequate interconnection facilities for new entrants. As a result investments made by new entrants are required to wait for the availability of interconnect facilities. It leads to

- Higher cost of service*
- Inefficient handling of call*
- Sub-optimal utilisation of network*
- Serious increase of CAPEX and OPEX making operation unavailable*

1.3 Considering low affordability of general population, it should be the most important endeavour to-day to keep the CAPEX & OPEX of the network as low as possible, so that the communication facility may be provided at most affordable prices." [Emphasis supplied]

With multiplicity of services and service providers, it is imperative to enforce principles of cost-causality, non-discrimination and transparency to ensure interconnection is cost-based for effective and fair competition between players of unequal market power. It is not out of place to mention that the reluctance of few service providers to migrate to a regime of Interconnection Exchange needs to be tackled by TRAI with assiduous persistence in the larger interest of the growth of the telecom industry as today the industry is beleaguered with inter-operator interconnection disputes that are hampering its growth.

In our opinion, addressing the limited issue of Co-location Charges will not resolve the larger problem infesting the interconnection landscape between old & new players, and its other constituent problems will perpetuate until a holistic solution is worked out. Therefore the proposal to fix Co-location charges to address interconnection issues faced by service providers especially new entrants, is not future-proof. However, as any conscientious service provider would, we are submitting our comments on the issues raised in this paper. But we nevertheless feel that the Authority should revisit its earlier exercise on Interconnect Exchange cum Billing Clearing House. It is pertinent to mention herein that the Authority had deliberated the concept of Interconnection Exchange as early as March 2004 when there were only 4 - 5 access service providers in a service area. Today this number has reached 12 – 14 making it all the more relevant and significant. We would also like to stress that as the industry evolves & expands, efforts should be made to standardize interconnection related aspects covering not just administrative & technical aspects, but also the principle commercial issues.

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1. **Give your comments on the procedure for making an application and subsequent provisioning of Co-location indicating clearly the time lines for each activity and the centre of responsibility.**

Etisalat DB Telecom's Response –

Till such time that TRAI introduces the concept of Interconnect Exchange, a standard format for Co-location application should be used across the industry to bring consistency. This may be prescribed by TRAI in consultation with all operators. The form should be simple requiring only the essential details to be filled (i.e. bare minimum info that is crucial to Co-location).

Suggested details to be covered:

1. Name of interconnection/Co-location provider and seeker,
2. Address and place where Co-location is sought
3. Details of Co-location space (e.g. one rack/bay etc)
4. Details of Power Requirement / Other environmental requirements

5. Details of any co-location equipment existing in the same building (even if in some other operators' premises)
6. Details of tower, duct and other passive Co-location (separately)
7. Co-location type or for service(s) i.e. whether for Access (GSM/CDMA)/ILD/NLD etc.
8. Security Requirement
9. O&M preference (self/provider's facility)

Using this Form, the Co-location Seeker can communicate its need for space and other facilities to the Co-location Provider, who shall, **within one calendar week** from the date of receipt of Request, respond to the Seeker with the following details:

- a. inform about the availability of all or some of the facilities sought
- b. intimate either the acceptance (part or full) or deferment (part or full) of the demand
- c. inform tentative timelines for provision of facilities (both immediate & deferred dates)
- d. in case of deferment of full demand, the Co-location Provider should give an alternate proposal to address the Seeker's requirement
- e. identify SPOC with whom the Seeker may co-ordinate for obtaining the facilities. In any case the Co-location Provider must make available the requisite facilities (wherever feasible) within 15 calendar days.

In situations where Co-location at the specific location where space has been sought, is infeasible, the Co-location Provider must give space immediately within 15 days at alternate location for upto 3 months as a stop-gap arrangement. And within these 3 months, a more suitable arrangement must be arrived at between the parties through mutual cooperation.

It is often seen that a Co-location Provider asks the Co-location Seeker to come to a remote/far off location (which involves laying/leasing of extra fibre) instead of giving Pol at a nearer location preferred by the Seeker. This not only escalates costs for the Co-location Seeker but also delays establishment of Pols. In such cases, the Co-location Provider must be advised to come up with a workable solution within a 3 months period, to give the Seeker Co-location at a more suitable/nearer location, failing which the Seeker may approach TRAI for intervention.

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2. **Give reasons because of which request for Co-location can be rejected by the Co-location provider.**

Etisalat DB Telecom's Response –

Rejection of Co-Location Request should not be an option at all. Under exceptional circumstances, provision of co-location may be deferred for a pre-defined time frame that does not negate the very

objective of this exercise. Co-location may be deferred for a reasonable period of time (to be defined on case-to-case basis) for cases such as those mentioned below:

S.NO.	REASON	REMARKS
1	Expansion of service provider's own services	The maximum delay may be 3 months
2	Technical constraint at Co-location place	Co-location to be provided at alternate location immediately with option to relocate at new /desired location within 3 months
3	Lack of available and necessary infrastructure at Co-location place (e.g. power etc)	Co-location to be provided at alternate location immediately with option to relocate at new /desired location within 3 months

Ideally, Co-location Seekers should be *permitted to collocate equipment that is "used and useful" for either interconnection or access to unbundled network elements*. In our opinion interconnect exchange is a comprehensive and long-term solution to such problems.

Out of above stated reasons viz. non-availability of space and power is the only valid reason for longer delays of upto 3 months. In such cases the end link equipment should be accommodated in the existing rack and shared between operators. Alternatively, the provider should allow for passive connectivity.

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3. Give reasons because which an ongoing co-location agreement can be terminated by the co-location provider.

Etisalat DB Telecom's Response –

Termination of co-location agreement by the Co-location Provider should be allowed only in two events:

- a) Expiry/cancelation of telecom service license of the Co-location Seeker
- b) force majeure

Apart from these two cases, for any other dispute cropping up between Co-location Seeker & Provider there are several mechanisms available to both the parties to resolve their disputes. In case Co-location Seeker causes any damage / interference to the Provider's equipment or in case of illegal activity, there is always enabling provision built into the Interconnection Agreement to suspend the POI after giving reasonable notice with a copy to Regulator as per TRAI directive. There is therefore no need to terminate the agreement.

However if **there exists a definite case outside the two cases (i.e. force majeure and govt direction)** wherein the Co-location Provider considers termination of Co-location agreement to be necessary, it is recommended that **all such cases must be ratified with reasons thereof by TRAI within 7 days of receiving such applications**. Even in such cases, a notice of 30 days must be given by the Co-location Provider. **The responsibility to prove that Co-location agreement is terminable must lie with the Co-location Provider and must be demonstrated** in front of the authority.

More specifically, the co-located equipment must be allowed to be used for more than one operator in the same building. As such, this (that co-located equipment has been used for inter-connection with another operator) must not be the cause for termination.

4. Give your comments on the procedure of termination of Co-location including the notice period that any party may give to the other party for termination of Co-location agreement.

Etisalat DB Telecom's Response –

As stated in our response to question (3) above, termination of Co-location agreement is justified only in two cases. Subject to the above, termination should be after giving sufficient notice (30 days) since it has the potential to impact operators' and customer services substantially. In cases where the Licensor has asked to terminate all or any services, notice may be for a shorter period.

Since there exist so many pitfalls that we fear any operator can use to arm-twist other operator and even a PoI stoppage can lead to substantial business losses, we recommend that interconnection exchange be explored as the best alternate solution to pre-empt any such problems.

5. What measures can be taken to ensure transparent and non-discriminatory treatment in pricing and provisioning of Co-location facility? Should these be mandatorily published on the providers' websites?

Etisalat DB Telecom's Response –

Co-location is critical to interconnection and therefore charges for Co-location should be cost-based and these facilities should be provided in a transparent & non-discriminatory manner. Although we are of the opinion that an Interconnect Exchange has the inherent attributes to resolve all problems of bi-lateral interconnection, we suggest the following approach for Co-location costing:

- Co-location charges should strictly be cost based **without any mark-up on interconnection costs**
- TRAI must define the costing method without any return or mark-up
- TRAI must delineate various cost elements to be included in Co-location charges
- TRAI must define formulae for calculating these charges
- TRAI may classify cities as Metro, A, B and C category and prescribe uniform rates for the 4 categories of cities which should be charges uniformly by all operators for Co-location facility

TRAI should publish the model/formulae and ask all operators to populate it with their data. Based on inputs of all service providers, TRAI should arrive at an industry average and prescribe it as Co-location

charges that a Co-location provider may charge to a Co-location seeker. To ensure transparency and non-discrimination, we further recommend the following measures:

1. Each operator should publish the co-location price list on its website and also in TRAI websites
2. Presentation of costs cited by various operators and discussion amongst operators
3. Secondary discussion should centre on price-points and not the costing method defined by TRAI

For greater transparency, Co-location Providers should list all approved equipments and all equipments they use, on their website, for the benefit of Co-location seeker. Although a Co-location provider may require seeker's equipment to satisfy certain safety standards but these should not be more stringent than the requirements it imposes on its own equipments located within its premises. **In absence of such a requirement, the Co-location provider may otherwise unreasonably delay the ability of seeker to collocate equipment in a timely manner.**

This would serve the following objectives:

1. Standardization of industry approach for greater transparency & a more efficacious system
2. Precludes possibility of discrimination by any operator (*if there is no check, two different operators may be charging different rates in the same city*)
3. Avoids procedural rigmarole that can artificially inflate costs of the Seeker
4. Obviates complexities stemming from bi-lateral negotiations in a multi-operator scenario
5. Involvement of TRAI as a non-partisan expert body to resolve differences between operators
6. Scientific basis of charges – classification of cities into Metro, Tier - A, B and C such that prices truly reflect cost variations.

6. How should a bay and a rack defined and what area they should be presumed to occupy?

Etisalat DB Telecom's Response –

One important aspect of Co-location is that it must be (a) sufficiently unbundled and (b) standardized across the industry. Hence defining what constitutes a bay or a rack is critical to non-discriminatory interconnection. One Rack of 19" size should be a larger entity housing 4 bays within it. The Rack size be tried to be standardized. On breakup the price of one bay would include Space, DC power with backup facility, Air-conditioning, and Earthing. Duct and Tower should be separately available as these are not required by all seekers.

7. Should the charges be quoted on a consolidated basis per unit area OR per rack/bay inclusive of all facilities OR segregated item wise i.e. separate charges for space, power maintenance etc?

Etisalat DB Telecom's Response –

The charges should be consolidated and on per bay basis. Which on breakup will include the following i.e. Space, DC power with backup facility, Air-conditioning and Earthing. The Rack size and specifications should be standardized as suggested in response to query 6 above.

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8. What elements should be taken into consideration for costing Co-location and what should be the costing methodology for calculation of various elements like
- Charges for space both in case of owned and rented buildings. Should the calculations be based on carpet area or super area?
 - Should the charges be based on market rent or any other criterion
 - Electricity & miscellaneous charges
 - Charges for in-premises duct sharing
 - Charges for tower sharing (For the purpose of mounting of antenna for interconnect link)
 - Annual escalation for the charges
 - Charges for sharing of any other facility required for collocating equipment for interconnection

Etisalat DB Telecom's Response –

The elements to be considered for Co-location costing charges may cover the following:

1. Space
2. Rack (separately)
3. Bay (separately)
4. Power (electricity)
5. Power (diesel)
6. Security
7. Other O&M charges (if any)
8. Duct
9. Tower
10. Other passive elements

The costing methodology for calculation of various elements should be **directly attributable costs**. TRAI should work out a formula covering each element as agreed and defined based on which the charges would be defined and arrived at by TRAI.

Various elements as enumerated in the query above as follows:

- Carpet area vs. super area – **Carpet area**
- Space Rental Charges - should be **much lower than market rent** since for any operator Co-location has to be in the premises of a service provider only. Concept of market rent is not much relevant here since in the case of market rent, the space is for exclusive use of the tenant whereas in case of Co-location the seeker is using that space to terminate traffic meant for terminating in providers' network and it is not a pure commercial service. Had it been a 3rd party premises which would host a Co-location for 2 interconnecting operators (and not for itself), the concept of commercial market rent would make sense.
- Electricity & miscellaneous charges – **directly attributable with individual sub-meters**
- Charges for in-premises duct sharing **should not be charged as it is covered in rental**
- Charges for tower sharing (For the purpose of mounting of antenna for interconnect link) **should not be charged as it is covered in rental**
- Annual escalation for the charges – **Please refer to response to query 9 below.**
- Charges for sharing of any other facility required for collocating – This may cover tower Co-location as well

9. A common method of costing is based on directly attributable cost. If this method is use then what should be the reasonable return allowed?

Etisalat DB Telecom's Response –

Costing based on directly attributable cost is appropriate. These charges should be worked slab wise based on Government categorization of cities, power requirement and air-conditioning in steps of usable power load say 5 Amp. Since Duct and Tower requirement is not universally required with every Co-location, therefore should be separately priced and quoted.

To reiterate our suggested costing procedure for Co-location pricing in response to query 5 above, the process should be:

- Co-location charges should strictly be cost based
- TRAI must define the costing method (directly attributable) **without any return or mark-up**
- TRAI defines the formulae explicitly for calculating these charges (***without prescribing any mark-up in these interconnection costs***)

- Prescribe each element to be counted to determine Co-location charges
- Classify cities as Metro, A, B and C category as generally used by the government
- Give this model to all the operators and get their respective details on each item
- If deemed necessary, make adjustments basis sound assumptions after discussing with all the stakeholders in a transparent open session
- Based on the final inputs prescribe Co-location charges

Reasonable Rate of Return - We reiterate that *Co-location charges must be cost-based without any mark-up as these are essential facilities (unlike retail services) without which interconnection is not possible*. Service providers earn profits from retail tariffs for provision of services to subscribers and therefore there is no need to allow mark-up on Interconnection charges. Interconnection Charges should not be considered a revenue stream. *Hence the concept of a reasonable rate of return (whether or not linked to commercial market trends) must not be considered to ensure that interconnection costs do not escalate*. We must understand that if we tend to increase various threads of interconnection for service providers ultimately the service cost to the end consumer would increase thereby defeating the principle of affordability of services to the consumer.

10. Should there be a well defined criteria for allowing Co-location provider to retain space for own need? Explain your answer.

Etisalat DB Telecom's Response –

Although every service provider is within its rights to reserve space for its own future needs, this should not be used as an excuse to deny/ indefinitely defer request for Co-location from a Seeker. Therefore space should not be blocked for long-term expansions (say beyond 3 months) else under the garb of expansion plans the Co-location can be deferred or delayed indefinitely, thereby impacting the seeker operators' business plans; which fundamentally undermines the spirit of competition and level playing field.

Moreover, space constraints because of own needs can only be felt while conceding space in ducts or tower. Since, normal Co-location is in the meet-me room, there should not be any space constraint. As every operator knows how many interconnects mandatorily he has to provide to other operators as per license. There are ways to pre-empt future space constraints such as insistence on each interconnect at Optical level.

11. Should there be an option to the seeker for carrying out operation and maintenance (O&M) of the collocated equipment itself or through the Co-location provider? In case O&M is done by seeker what should be the conditions for access to the premises while in case it is done by the provider what should be the criteria for charging for it?

Etisalat DB Telecom's Response –

Yes, Co-location Seeker must be able to carry out O&M activities and entrance to the premises should be allowed to the authorized personnel carrying valid identification during normal working hours. For O&M the seeker should send its own pre-authorized engineer/employee to be accompanied by Co-location providers' authorized personnel even if the network management is outsourced to vendors/partners. The escalation matrix for the same should be clearly laid and published.

In case the O&M is agreed to be done by the Co-location Provider, then the agreement in that case should be *no profit - no loss* even if the O&M on behalf of Seeker is managed by a Third Party.

12. What should be the criteria for determination Co-location charges of passive links?

Etisalat DB Telecom's Response –

With regards to the passive links, Co-location Provider should be allowed to charge based on the facilities provided to the Co-location Seeker i.e. cost of the ducts, etc. however the elements, costing methodology and principles etc must be well laid out e.g. the cost of duct used for sharing should be transparently calculated and rate published city wise. The charges for these facilities should be on cost-basis and without any mark-up as these are essential for interconnection.

13. Is there a justification for the Co-location cost to be shared by both the seeker and the provider? If yes what should be the criteria used?

Etisalat DB Telecom's Response –

The guiding principle should be that each party should bear the cost in relation to the outgoing traffic from its network. The cost of end link, O&M, power and space charges should be proportionately shared between both service providers if the links are used for both-way traffic.

14. Do you have any other suggestion regarding framing of guidelines for Co-location charges?

Etisalat DB Telecom's Response –

At the cost of repetition we would like to mention that interconnection covers a wide gamut of issues, co-location being just one of them; and in order to dispose of the problem effectively, it is necessary to look at all aspects of interconnection. TRAI had taken a step in the right direction vide its consultation paper dated March 26, 2004, wherein it discussed the concept of Interconnect Exchange cum Billing Clearing House wherein all the operators would be connected to only one exchange and uniform terms of connectivity would be applicable. Interconnect Exchange could be versatile enough to accommodate all type of interconnect links as per licensing/ regulatory requirements. Interconnect Exchange operator could work as a mediator and clearing house for the bills between service providers.

Para 5.6 of the consultation paper states that ".....by using Interconnect Exchange the Network Architecture could get simplified and investments for Interconnection could see a drastic cost reduction. Interconnect capacities could see around 50% reduction and the reductions will be much higher for Circuit Kms. Number of POIs would see a massive reduction and as a result the number of mediation devices could be reduced. This could lead to a simplified IUC Regime. The Interconnect exchange could cut down the waiting periods for Interconnections. Direct infrastructure support for further increases in the subscriber base of all service providers with minimum constraints would also be feasible."

Clearly, the Authority agrees that the Interconnect Exchange will address most of the problems being faced by the service providers today such as excessive interconnection costs imposed by incumbent private operators in the form of Port Charges, Passive Infrastructure Charges, Set Up Charges etc. inordinately long waiting period for provision /augmentation of interconnection capacities, inefficient handling of calls, sub-optimal utilisation of network, high operational cost for managing inter-operator settlements, inter carrier billing, complexity in settlement of IUC and increase of CAPEX and OPEX which are manifestations of inefficiency and totally avoidable costs.

Regulating pricing of item (eg. Co-location charges) nevertheless leaves enough rope to hike prices of other items (eg. Set-up costs, installation charges etc.) leading to the so-called "water-bed" effect wherein a dominant operator can escalate the price of unregulated factors if some factors are subject to regulatory price controls. Therefore we are of the opinion that the Authority should revisit its earlier exercise on Interconnect Exchange cum Billing Clearing House to address all problems collectively and more permanently.

Additionally, a few other issues but very critical to Co-location that must be considered while devising guidelines are as follows:

1. Third party media/bandwidth – *One important aspect of fair, effective, efficient and competitive telecommunications services is seamless interconnection irrespective of the fact*

who is the underlying facilitator of interconnection infrastructure, provided that infrastructure provider is maintaining the requisite standards.

Hence, in the cases where an interconnection seeker wishes to install its MUX at the interconnection provider premises for the purpose of establishing the Pol using a third party media, the Co-location Provider who happens to be the interconnection provider as well, shall immediately grant permission to the seeker to do so.

2. Leasing of leading in fibre capacity - Co-location necessarily involves leasing of fibre or transmission capacity for leading in of interconnects in other party's premises. In the present practice there is complete lack of transparency and charges are not based on market determined rates. The provider insists on either the seeker should bring its own fibre or take on lease the capacity only from him at his dictated prices. Not only the prices but the SLAs on uptime & connection on protected ring is also a negotiation point at the time of leasing which gets moulded into their favour for obvious reasons. These lease charges has to be borne by the seeker in perpetuity not only for the requirements at the time of seeking the interconnection but also for the continued up gradation of the capacities upto 2 years, and even on reconversion to one way junctions on expiry of 2 years.

It is only plausible for a Seeker to expect that, when it is incurring the cost to establish Pol connectivity with the Provider, the choice of Vendor from whom to procure the media, rests with it. Co-location Provider should not be permitted to insist that the Seeker procures the media from the Co-location and/or Interconnection Provider. The Co-location Provider must allow the Co-Location Seeker to lease bandwidth, for the purpose of connecting the co-located equipment to its home network, from any third party bandwidth provider at competitive market determined rates or from any other operator who is already present in the premises.

Fundamentally, a Co-location seeker or the interconnection seeker must be free to choose its vendors for its infrastructure build-up, with only condition that the vendors'/providers' equipments should in no manner degrade/damage the network premises or network performance of the Co-location or interconnection provider.

3. Bearing the cost of fibre capacity requirements on the provider - The incumbent private operators, when they provided the interconnects to each other, at that time they were not charging the Co-location charges, instead the seeker was supposed to continue to bear the cost of all one way E1 junctions as per traffic flow at the end of 2 year period and thereafter. Since, both the networks were growing simultaneously the traffic imbalance was minimal and consequently the imbalance in the number of E1s. Lease cost of E1s for provider requirements was getting offset against the condoned Co-location charges. Now when new licenses have come there is bound to be huge traffic imbalance and thus this practice will result in major

outflow of money for the new seekers, apart from payments on account of Co-location charges. For a fair play and effective competition, there should be regulation to check this imbalance

4. Space exhaustion: It is an issue that can lead to unnecessary delays by the incumbents or any other operators. There should be a time-limit to each such kind of delay e.g. maximum 3 month delay for space etc.
 5. Inter-MSC Junction – TRAI must allow and mandate cross-connections or inter-MSC Junctions connecting two Co-location seekers in the Co-location providers' premises at very reasonable costs between seekers and providers. This will not only reduce the wastage at seekers' level but also at an aggregate industry level would only add to the net surplus by avoiding unnecessary duplications of network/costs.
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