



**INTUG Position Paper**  
**International Mobile Services and**  
**the Multinational Customer**  
**A Dysfunctional Market**

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## **INTUG Position Paper**

### **International Mobile Services and the Multinational Customer - a Dysfunctional Market**

#### **EXECUTIVE SUMMARY**

Managing and supporting international mobile communications is increasingly challenging. The challenges include managing multiple relationships with mobile service providers, managing the ever-expanding fleet of devices, managing secure data applications, checking hundreds of bills and allocating costs back to departments or end users.

**Multinational companies as represented by INTUG are DISSATISFIED with CURRENT international mobile services.**

Sourcing mobile communications at a regional or at a global level is very challenging. A comprehensive international mobile operator would be one who owns the network, offers consistent service, is able to set homogenous tariffs makes no charge for roaming. No such operator exists today. There is lack of competition, which needs to be addressed by regulation as if a cartel was operating. There are inconsistent tariff structures, prices are too high and action on wholesale tariffs alone is not sufficient to reduce retail tariffs.

Operators must take a global view of MNCs acknowledging their international scope and the global markets in which they operate. Some can provide international agreements but these are often simply bundles of local offerings. Even in countries where operators have full control, they still fail to offer significant international service deals. MNCs need to work internationally and expect mobile suppliers to have a global approach. This would offer a single contract, a single ordering point, a single delivery point, a single support contact centre and a single billing centre for the maximum of countries worldwide.

**The global market is a fragmented PATCHWORK of NATIONAL MOBILE SERVICES.**

International service providers today piece together national offerings, using various forms of partnership, ranging from full subsidiaries and investment holdings to looser alliances. The level of control in partnerships varies from wholly owned subsidiaries over partners in whom they hold a majority or a minority stake. The outcome of this situation is major country-to-country variations in service, products and pricing.

Today's international service offerings are, in effect, simply virtual arrangements to help customers deal with national operating companies and their service/support structures. Whilst such arrangements do align some contractual terms and conditions, and help customers gain a better view on their global mobile spend, they do not represent the true competing one-stop-shopping offerings, which international companies seek today.

There is no reason why international service providers have to simply continue to define their MNC offerings based on the 'lowest common denominator' of what they can get some co-marketing partner to agree to in a country where they have no presence.

## **INTUG Position Paper**

### **International Mobile Services and the Multinational Companies (MNCs) - a Dysfunctional Market**

#### **1 PURPOSE OF THIS POSITION PAPER – A CALL TO ACTION**

This Position Paper analyses the International Mobile Services Market from the viewpoint of MNCs, and recommends actions for Service Providers, Regulators and Customers.

#### **2 THE NEEDS OF MULTINATIONAL COMPANIES (MNCs)**

There is a lack of understanding by operators of the needs of MNCs. Business market segmentation is based simply on the number of subscriptions, but MNCs are more than a collection of SIM cards. Service Providers do not see MNCs as a high margin opportunity.

Medium to fairly large companies have centralized processes and/or global inputs and sales, and may have 1000 users in one country and 20-60 in 15 more countries. Small and distributed companies, such as consultancies may operate in 5 countries and have no more than 50 or 60 mobiles per country. Neither requirement is acknowledged today.

Even the biggest MNCs are merely seen as big, but with no distinction from the needs of a major national account. Access criteria to MNC programmes are generally limited to international customers with a minimum of 12.000 SIM cards. Since MNCs are simply seen as big companies, they are not perceived as a significant profit opportunity. Service providers therefore compete for the business of the largest companies in each country, but defensively, seeking to maintain high volume revenues.

This produces a market paradox. MNCs tend to focus on and complain about individually exorbitant roaming or international charges, and think they must be a huge profit centre for the operator. Service providers, on the other hand, see a customer who runs professional procurements, and has volume discounts that almost wipe out all their profits. Therefore, whilst operators may agree that roaming/international pricing is not rational, overall, they don't feel they are earning enough on the MNC customers to justify a changed approach.

This is a consequence of the operator not seeing the customer as someone with special needs. They simply see a large bundle of subscriptions at a high discount. If they saw this segment has having a unique set of cross-border needs – both administratively and in terms of services – and one that ranged from quite small customers to the current largest ones, they could construct unique and differentiating offers for the segment. They would then be in a better position to generate a good margin long term, whilst at the same time rationalising their pricing models for roaming and international services.

INTUG believes existing MNC programmes should align contract terms and conditions, and core service delivery (the networks, the helpdesks, the support centres, the billing, the pricing) rather than leaving decisions at local level. International service programmes could then serve as intermediaries.

### **3 DETAILED REQUIREMENTS**

#### **3.1 Transnational Contracts should be offered**

MNCs want operators to provide them with a single contract for their global operations in all the countries where they operate. Rather than a collection of different national offerings, there should be one common service concept deployed across the full in-scope footprint. The contract should include service level agreements in each country, managed by with one global team with a single point of contact. INTUG believes service providers should therefore align their own organisation structure to the structure of their customers.

This has proved to be the most effective approach in other international ICT contract arrangements. One way to achieve this would be by establishing a single entity with its own P&L covering in-scope countries, with authority over all resources required to deliver on MNC requirements. A lack of cooperation is often experienced if the deal is not “signed up to” by each country. One-stop shopping can only work partially in such circumstances, and each element of a contract needs to be confirmed by national contracts. One solution is a frame contract, supplemented by local contracts.

#### **3.2 International Account Management must be effective**

Top-level service provider representatives must have authority at global level and be able to act directly on behalf of all countries. These should, of course, be supported by local ‘in-country’ resources, but should not be dependent on them for authority.

The Account Management team should report at each relevant level within the structure of MNC customers, providing details of service operational quality and delivery, costs and how improved efficiencies could be made overall and in specific locations.

#### **3.3 Pricing should be realistic within a Consistent Structure**

The pricing structure should be consistent for all in-scope countries. The definitions of the billable items and the specific elements in each billable category should be the same for all in-scope countries. There does not, however, need to be a single uniform price for each category across all in-scope countries, since each country has a slightly different competitive price level today, due to differing costs of operations, original license costs, and regulatory history. Voice mail retrieval tariffs should, however, be homogenous across all countries.

MNCs require the most competitive pricing in each country market, e.g. domestic ‘mobile to mobile’ should be defined the same way in all countries, including terms such as minimum billable time, billing increment, etc., but the price may differ between countries.

### **3.4 Equipment Pricing should be separate from Network Services**

Handsets should be supplied independently, under separate terms and fully segregated from pricing related to network usage. This will force greater transparency and more effective competition in both service usage and equipment supply.

### **3.5 Roaming Charges should be reasonable**

INTUG is convinced that the real costs of roaming are very, very low. However, despite reductions in some parts of the world, notable within Europe recently, service providers continue to charge excessively for international roaming, especially for mobile data. Whilst there is increased usage, charges remain a deterrent to business usage. The irrational distortion of pricing forces MNCs to implement controls on mobile usage to minimise the volume of utilization which incurs roaming charges.

In most cases, additional usage would benefit the customer who wants to use the service, and generate revenue for the service provider. If prices are aligned with real costs, MNCs will use services as much as business activity dictates, paying fairly for the value received.

The only real extra costs are: (a) an additional identity lookup step, i.e. a database query between large servers sitting on high speed networks, (b) an additional billing record to be integrated in a customer statement, (c) for 'roaming in' only, one voice call connection across a network transfer switch, between the backbone fixed voice networks of the two operators. Often, the real costs are the same for domestic and international roaming.

The distorting cost of roaming to an MNO is the interoperator tariff agreed between them. This, however, is based on a tangled history of regulation and collusion and unintended consequences. It has absolutely NO relation to the technical realities of the service.

If an operator has controlling ownership of network operators in multiple countries, the only cost for international roaming between those countries is the 'legal' cost it allows itself to be charged, for its own internal benefit, since there is no interoperator commercial charge.

### **3.6 Regional Trade Groups should eliminate Roaming Charges**

Economic co-operation areas, such as the Single Market in Europe exist to eliminate trade barriers and reduce cross border taxation. This should be reflected by removal of roaming charges within such regions. For example, the main pan-European operators could make reciprocal agreements with operators in those countries where they do not own a national network, to facilitate serving MNCs. The net roaming effects of the MNC customers could be estimated and tracked, and any unbalancing impact between the main group and the independent partner compensated. This benefits the independent operator, and given that the actual costs of roaming are trivial, the partner operator will also gain by participating in such an arrangement, through MNC business in its country.

### **3.7 International Messaging Prices must be reduced**

If an operator is simply providing GSM SMS texting, or just allowing use of a standard Mobile IM gateway, this is a small incidental part of the service package. In the era of 3G/LTE high bandwidth capabilities, where a server and router costing €10,000 has the power to process every text message generated in Paris - it is absurd to pay messaging prices that are based on assumptions from 1985 about the cost and complexity of packet data transmission in the early days of ISDN.

### **3.8 International Mobile calls should be priced nearer to Fixed calls**

Recent MNC contracts offer international calls rates from a fixed line at virtually the same rate as its domestic rates. This implies that the cost base does not justify large mark-ups. The same philosophy should therefore apply to calls from mobiles. After accounting for the higher price of the originating leg of a local mobile call, the price for international outbound calling should exactly match the tariffs offered for fixed line origination. For many mobile operators and MNC customers, the same 'converged' operator provides the fixed contract (e.g. France Telecom, Telefonica, KPN...).

The Fixed market has a complex range of monthly-based tariffs and packaged bundles. Mobile charges for MNCs should be largely usage-based, with far less manufactured complexity of packs, bundles and minimums. Pricing should resemble fixed charges, with airtime usage only, no minimum billing time charges and no monthly subscription charges.

### **3.9 International Mobile pricing should be transparently aligned with costs**

Where pan-European mobile operators have less predictable costs, and less opportunity to influence the charges from the other charges, there is a cost reality they must bear. However, pricing should be aligned with those real costs, and with some transparency, rather than linkage with consumer based pricing models.

For text messaging to an unaffiliated receiving entity, the costs are simply the wholesale rates negotiated for message termination with the various end networks. There should be 'Cost plus' pricing with a reasonable transparent margin. If the operator provides a unique additional service, such as hosting a Presence service, or providing Instant Messaging federation, allowing interoperability between customers using different systems, or some other related but new service - this could be priced by the operator based on added value.

For roaming on the network of an unaffiliated roaming entity, some roaming charge will be unavoidable, because there is a real cost to the operator. The price should again be "Cost plus" with a reasonable transparent margin. In regional internal market for trade cannot work as intended when national/international operators charge excessively for roaming.

### **3.10 International Billing should be harmonised**

"One stop billing" with standardized invoices across countries is not currently offered. INTUG recommends global harmonisation of billing and reporting at the international level to ensure tariffs and related information is clearly understandable with no hidden costs.

The billing format should be the same across all in-scope countries, with a standardized electronic interchange format. The billing cycle should be identical in each country/unit. The invoicing process must be consistent even where MNCs operate through subsidiaries.

Service providers should generate flexible hierarchical billing and payment. Invoices should be at the level most suited to the structure of the MNC's payment processes. Operators should strive to reduce the costs associated with internal 're-billing' to recover costs at different levels from units paying for the services within the MNC.

### **3.11 International Reporting should be supported by analysis tools**

Operators should provide MNCs with on-line tools as requested to analyze bills, create reports and review bills for the previous 12 months. Reporting should be consistent across borders and should facilitate consolidation at regional and global level.

The following are examples of reporting:

- Global Inventory of Devices and Billable Services
- Global View of Demand
  - individual billable line items
  - summary of all divisions/countries
- Demand Analysis Tools to help determine cost control actions.
- Individual and Cost Centre Manager monthly reports
  - using standard reference currency
  - per calendar month
  - standardized cost categories (e.g. National, International, roaming, data, text)
  - trend analysis

Web-based applications should be provided to manage MNC mobile services, e.g. for SIM card orders, with a calendar application for specify the date and time of installation and repairs, and a tracker for complaints, orders and fault status. Where this results in a reduction of work for the operator as it is transferred to the MNC, tariffs should be lower.

### **3.12 Service Management and Administration should be centralised**

A single end user helpdesk for devices and applications remains an essential prerequisite. Currently, even when offered, it is rarely fully operational and is very limited in capabilities. MNCs experience language problems, and lack of understanding of overall circumstances. MNCs have a lack of visibility of what is happening globally and local operators are often unable to answer them and provide them with reliable information. In individual countries, helpdesk business hours of operations should cover the customer's operational needs, including different methods of contact as appropriate.

MNCs need to measure and manage the total mobile cost of ownership, and hence need solutions to cope with issues such as private usage of mobile, expense mobile costs back to a subsidiary or entity, and information on the cost of calls to mobiles. Management and administration should include automated mobile asset configuration and deployment.

### 3.13 Security Management should be centralised

Security is critical to MNCs and effective management of mobile security is an essential part of an internal mobile service offering, tailored to the customer's individual needs. This should include:

- Enforcement of password policies
- Enforcement of data encryption policies
- Deployment of firewall/antivirus protection
- Locking and Erasing of Lost Devices

## 4 FIXED MOBILE CONVERGENCE

MNCs with multiple subsidiaries in different countries can use VPN (Closed User Group) services to minimise costs between mobiles and fixed lines, but operators are often unable to provide service information as to what is available, where and how. Operators should be able to confirm that a national VPN could be connected to an International VPN. The goal would be to reduce mobile costs between different countries, e.g. by rerouting the most expensive international and roaming calls via a data network. The key benefit of this service is that it works automatically (no calling card or pin codes are required).

MNCs also expect operators to inform them whether the Mobile Extension facility enables mobile numbers to be included within a site dial plan. This is an example of the benefits of an operator developing a deeper understanding of business processes, system integration and converged international network services. There are different national fixed-mobile converged services, but consistent services, covering multiple countries, hardly exist.

Fixed-mobile convergence will continue to be important for MNCs. It would be useful for service providers to leverage the experience of the existing MNC internal user base as far as possible, and to integrate this into the collaboration tools currently being rolled out that feature 'presence' systems that link various communications tools.

Current experience is very different. The message from operators to MNCs today is:

- buy your fixed voice (IP Centrex) from the operator - in addition to mobile
- eliminate your own PBX/IPT systems
- implement a different FMC solution in each country
- integrate each of these different country specific solutions separately
- absorb these within the messaging/presence/directory environments

This is an absurd situation, and is a simple reflection of the fact that there is no such thing as the MNC Market segment within the product planning of the mobile operators. Some operators have not even done the obvious steps within their power, e.g. to link together global fixed voice VPNs with mobile VPNs.

The minimum fixed-mobile convergence features required by MNCs are as follows:

- **One phone number**
  - a single phone number, which is reachable whether logged on at a fixed-IP location, or 'unconnected' via mobile network.
- **One message repository**
  - voice mail destination, integrated in a central messaging system, whether the call was intended to terminate to a mobile, or to a fixed voice number/device
- **Integrated collaboration**
  - All mobile devices should participate in a company's central Presence system (status, chat, directory, calendar) to the greatest extent possible in accordance with current devices. The operator should avoid forced upgrades of devices if there is no business need for additional applications.

## 5 FLEXIBLE GLOBAL INTEGRATION

International mobile service providers must acknowledge that MNCs have large embedded communications systems, operating on a cross-border basis. These collections of PBXs, Messaging and Presence Servers, Directories, and associated security components are a fact of life in the MNC world. Even if the operator has a complete suite of consistent cross-border collaboration solutions, most MNCs will still opt to manage their own systems due to concerns about security, control and technology evolution. The MNC community wants operators to add value in the domain where they have control and do something positive.

Mobile operators should provide for direct interaction between the 'intelligent network' layer of the operators' infrastructure, and the equivalent call control and application layer of the customers' managed systems. The 'mobility management' solutions offered by companies like Avaya, Cisco, ... are inefficient because they cannot interact with the MNO platforms.

The MNC solution must sit above the local country layer, and be consistent cross-border. The model should be the service architectures of global fixed voice providers who focus on MNCs, e.g. BT and Orange, who manage fixed voice platforms that are literally without country. They accommodate numbering plans of all countries, and sit on top of global MPLS IP networks for which national boundaries don't exist. MNCs need Closed User Group Mobile VPNs with "short codes" working across borders, where users with SIMs from multiple countries are part of the Global Enterprise VPN, but can retain local profile.

### 5.1 Publicise Future Footprint plans

Operators must provide detailed service information nationwide, but also internationally. Global operators should be able to provide the full list of services that are going to be available within a specific country or geographic area. It should be a cross-country view.

### 5.2 Report SMS quality

SMS is used actively in the "business to business" environment, and more specifically for machine-to-machine instructions and information. Operators need to provide information regarding the percentage of SMS successfully delivered and the average time for delivery. There is a call for process standardisation at a national and international level, including service availabilities, and for service level agreements.

### 5.3 Implement Device Management

Device management on an international level needs to be possible, not just simply to indicate which devices are in place. Operators need to provide a centralised technology roadmap, detailing recommended devices for the next 12 months, service capacity and pricing and where some devices will not function. Warranties should be applicable and homogenous across in-scope countries. When it applies, a global insurance contract for devices should be homogenous for all in-scope countries.

## 6 REGULATORY CHALLENGES

### 6.1 The Roaming story isn't finished

Roaming costs for voice and data services are still too high and can only be reduced by regulatory action. In Europe, NRAs must extend regulation to obtain radical reductions in charges for international voice, text and data. For the Asia-Pacific region, regulators need to act together to find solutions, working through APECTel and similar organisations. Regulators elsewhere in the world should take action appropriate to their circumstances. Current prices for mobile data roaming are much too high. Where customers do not have bundles or caps for mobile data, costs are outrageous, and this impedes competitiveness.

### 6.2 International mobile calls and texts are too high

INTUG welcomed the European Commission's decision to cap the roaming tariffs that operators are allowed to charge. But tariffs for international calls and texts now appear inconsistent with roaming tariffs. Some users note that it is far more expensive to make an international call (e.g. from Belgium to abroad) than it is to make a roaming call. Some national tariffs can even be higher than roaming tariffs. There seems to be no justification or logical explanation for these discrepancies.

The EU cap on roaming tariffs only applies to calls or SMSs made from abroad, not to abroad (these latter are simply 'international' calls or SMSs).

INTUG members have now discovered inconsistencies in the prices they are paying for international calls and SMS. One Belgian company is paying €0.50 per minute for a call to the Netherlands and €0.75 per minute to Germany or Portugal. These prices (especially the latter two) are substantially higher than the roaming cap price of €0.43 per minute. The charge for a domestic SMS at €0.12 is more than the roaming tariff cap of €0.11. An international SMS to Germany costs €0.307, over 3 times the price of a roaming SMS.

### 6.3 Mobile Termination Rates need to be reduced or replaced by Bill and Keep

*"The obvious problem is mobile termination rates, which are in most Member States 4 to 5 times above the cost of providing the service"* - Neelie Kroes, ex European Commissioner for Competition, and now Commissioner for the Digital Agenda.

Prices for fixed-to-mobile calls are far too expensive. Unlike roaming rates, this rip-off is not obvious to consumers, as it is built into charges that operators offer to consumers. But the problem is even more significant because it affects calls from fixed as well as mobile phones, and domestic as well as cross-border calls. The evidence that change is needed is crystal clear. The competition distortions are very real in the current situation.

Lowering termination rates gives all customers a much better deal. INTUG welcomes the intention of the European Commission to consider going to Bill and Keep in the future, and recommends that regulators in other parts of the world take a similar approach. Current excessive and divergent charging or distortions of competition are not allowed in markets for other basic items, and there is no reason to allow it to continue in communications.

#### **6.4 International 00800 numbers are not always free!**

A car maintenance MNC wanted to offer international freephone numbers to let customers contact them free of charge. They were unpleasantly surprised to discover that, even in Europe, different countries apply different rules, and that freephone numbers in reality are not always free for customers. In some countries, the call might be billed, especially when your customer calls you from a mobile phone, e.g. in the UK. In other countries, e.g. Belgium, it is not even possible to call these numbers from mobile phones.

Although international free phone numbers promised to be an interesting international marketing tool, at this point they fail to meet expectations.

#### **6.5 Cross-border consolidation is better for MNC customers**

INTUG sees limited evidence that regulators recognize the existence of a market segment such as MNCs, where a single operator offer transcending national borders, would be of immense value. Markets tend to be assessed for competition and dominance based on mass market consumer experience. There is a perception that more mobile licensees there are in each local market the better (e.g. adding 4<sup>th</sup> GSM licensees, adding specialize 3G licensees), and that so-called 'independent' operators are good.

Whilst the ability to enter mobile markets is a welcome sign of competition, MNCs would also benefit from more cross-border consolidation. In the USA, there used to be a mix of different mobile operators in different parts of the country and there were problems with roaming charges and inconsistent service offerings. This market has now consolidated largely to 4 nationwide operators in a business market the same size as the EU. Each operator has nationwide coverage and single offers with no roaming charges. This has been good for businesses in the USA, who are in a position to negotiate across the country with all their weight, and to get 'one stop shopping' as well.

Such economies of scale should be available to MNCs in other regions and continents, for example in Latin America, Asia, Africa and Europe, where the existence of the EU trade bloc should make the possibility easier. Getting competitive, seamless consistent offers across multiple countries will not follow regulation focused on national consumer markets. MNC needs must be addressed as a specific requirement, enhancing business efficiency.

## 7 CONCLUSIONS

International Mobile Service operators are not providing appropriate services for the MNC customer segment. This position paper has detailed the requirements of MNCs in order to assess the current operator position and to outline an end state which would make this market a success for both parties.

International buyers of mobile services have to deal with a patchwork of national operators offering different pricing schemes, service offerings and service level agreements.

MNCs would like global contracts including national and international contracts and tariff plans, volume discounts, data and voice services with competitive service agreements, seamless international service, a central administration tool, central billing and helpdesk, and an international VPN and above all, one-stop-shopping with a full international scope.

MNCs want to be able to order SIM cards for other countries, manage mobile costs in branch offices abroad, standardise services across borders.

To improve the globalisation of the International Mobile Services market, there is an urgent need for call for Mobile operators, Regulators and Customers to adopt a new approach.

### 7.1 Recommendations for Suppliers

#### **Launch an Independent MNC Focused initiative**

- Form a multi-country business unit with its own P&L and customer support
- Move away from a coordinator of country-based co-selling model
- Offer business users an IMSI for the visited country with the local regional tariff
- Resell local IMSIs in small countries to operators from outside the region

#### **Create specialised Service and Billing Platforms**

- Focus on implementing low cost and efficient processes through rationalization of the IT systems and manpower related to cross-border MNC needs, not an additional layer of costs on top of current national MNO processes and systems;
- Create a dedicated platform for global services, without the need to modify/consolidate outputs from numerous country based platforms
- Implement cross-border Fixed-Mobile convergence more simply and more cheaply

#### **Cost Based Access to Trans-border Group Assets like an Internal 'MVNO'**

- Create a corporate wide service platform with access to local country entities for collection, switching and termination of calls as the lowest cost solution.

## 7.2 Recommendations for Regulators

### **Address the MNC market segment with separate regulatory impact analysis**

- Foster development of multi-country consolidation and elimination of roaming
- Define scope as cross-border, expanding regulatory vision outside national borders

### **Encourage international innovation**

- Facilitate co-operation between operators in different countries for traffic direction
- Encourage operator creativity in packaging services in multiple countries for MNCs, acting against operators who seek to block cross-border interoperation
- Prohibit constraints of trade such as Skype-blocking on mobile networks

## 7.3 Recommendations for MNCs

### **Don't wait for suppliers or regulators to act on your behalf**

- International mobile service providers have failed so far
- Regulation is focused on national consumer markets, and works at a glacial pace.

### **Take control of Mobile as vital for business and engage suppliers**

- Identify a business unit that will be responsible for central oversight for all mobile services spend. Preferably this would be integrated with the team already doing the same for fixed line and data network services. This need not mean changes in budget authority or buying authority or in mobile management processes. But information must be shared with a central point of contact.
- Analyze the international requirements, costs and contracts, to provide a clear baseline understanding of the current position, to guide the next steps.
- Create a virtual 'needs definition' team of current direct stakeholders in mobility:
  - Those with current direct responsibility for paying, buying, managing suppliers.
  - IT, Telecom/Network and other staff responsible for mobile service management and mobile applications.
  - IT, Telecom/Network staff responsible for fixed voice, messaging and presence.
- Using the service requirements identified in this position paper as a starting point, create a prioritized list of needs based on a review of the MNC organization and its current method of managing mobility. Include anticipated projects associated with mobile, from new mobile applications to fixed-mobile convergence/substitution, to implementation of unified communications and/or collaboration systems.

### **Act regardless of the most recent mobile services contracts/negotiations**

- Regulation is focused on national consumer markets, and works at a glacial pace.
- The current state of market offerings for MNCs is severely deficient.
- MNCs are poorly served, and the industry needs to be made aware of requirements
- The aim is not just quick hit savings, but long term control and optimized mobile use
- Action globally by all MNCs through broad and consistently stated sets of requirements and complaints is the most effective route to achieving supplier/regulator response.

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