INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION DEVELOPMENT BUREAU

Document: 26

GLOBAL SYMPOSIUM FOR REGULATORS

Geneva, Switzerland, 8-9 December 2003

INFORMATION DOCUMENT:

DRAFT : ITU Venezuela Mini-Case Study 2003

Short Message Service "Convergence" Interconnection in Venezuela

International Telecommunication Union (ITU)

This mini-case study was conducted by Gustavo Tamayo of JOSE LLOREDA CAMACHO & CO., Bogota, Colombia with the active participation of country collaborators Jesus Rivera, Irene Torres and Ludmila Rodriguez from Venezuela's National Telecommunications Commission CONTATEL. The views expressed in this paper are those of the author and do not necessarily reflect the views of ITU, its members or the Government of Venezuela.

The author wishes to express his sincere appreciation to CONATEL for its support in the preparation in this mini-case study.

This is one of a series of Latin American mini-case studies on Convergence and the Information Society.

International Telecommunication Union
Place des Nations
CH-1211 Geneve, Switzerland

MINI-CASE STUDY FOR
THE 2003 GLOBAL SYMPOSIUM FOR REGULATORS

SHORT MESSAGE SERVICE "CONVERGENCE" INTERCONNECTION IN VENEZUELA

I. Introduction

Located in the Northeastern region of South America, Venezuela has a population of about 25.2 million and a GDP of approximately USD129.6 billion. Revenues produced by the oil industry give Venezuela one of the highest per capita incomes in Latin America.

The year 2002 marked a difficult economic, social and political situation in Venezuela. Despite these difficulties, the telecommunications sector registered growth and constituted 3.56% of the nation's consolidated GDP.

Telecommunications is the second major industry in Venezuela, after the oil industry. By the end of 2002, Venezuela had 2,841,771 fixed telephony subscribers, for a fixed line penetration rate of 11.27%. Public telephones reached 105,039 terminals, including those located in public Access Centers, for a public telephone penetration rate of 0.42%. The country numbers about 6.5 million mobile cellular subscribers, an approximate mobile cellular penetration rate of 27%, one of the highest in Latin America. Indeed, Venezuela was among the first countries in the world in which the total number of mobile cellular subscribers exceeded the number of fixed line customers.

Venezuela's telecommunications regulatory agency, CONATEL, was first established in 1991. Since its creation, CONATEL has played an important role in the telecommunications sector and has promoted the sector's growth.

Sector reform in Venezuela began a decade ago with the privatization of CANTV, the government local and long distance telephony provider. Sector reform expanded, more recently, by allowing free competition throughout the sector.

On 24 November 2000, the "Reglamento de Apertura" or Opening Regulations were issued, establishing the principles and rules for the promotion of competition, based on transparency, equal access among operators (including, when necessary, asymmetric regulations placing heavier burdens on those with market power) multiple operators, freedom of choice by customers, and service quality.

Currently, there are about a 100[1] different service providers offering a wide range of services, including local and international fixed telephony, mobile cellular telephony, trunking, value added services and short message service (SMS).

The Venezuelan Telecommunications Law is based upon the fundamental principle of competition. And, since interconnection enables the effective entrance into the market of new operators and services, the Venezuelan Telecommunications Law treats interconnection as a key measure necessary for the market's development and an essential tool for the maintenance of a competitive environment. In fact, under the Venezuelan Telecommunications Law, interconnection between telecommunication operators is mandatory.

The terms and conditions of interconnection agreements are initially left to the parties to agree. CONATEL is not authorized to intervene unless and until the parties have failed to reach an agreement within sixty days, counted from the date in which one party requests interconnection from another party.

The Venezuelan Telecommunications Law limits the role of the government to verify: a) that the interconnection requested is provided and b) to establish, where necessary, the general, technical and economic interconnection terms and conditions which will apply in the absence of an agreement between operators.

---

[1] A complete list of the Telecommunications operators in Venezuela may be consulted at: www.conatel.gov.ve, under the heading "operadores".

When requested to intervene, CONATEL sets interconnection terms and conditions within 30 days following a hearing in which both parties participate. The deadline for CONATEL's decision may be extended by another 30 days.

To promote competition, the Venezuelan Telecommunications Law mandates that interconnection negotiations between operators must be carried out based on the following principles: neutrality, good faith, non discrimination, equality of access, adequate quality of service and cost-oriented interconnection charges that include a reasonable rate of return for operators. CONATEL has issued a series of interconnection rulings based on these principles. (See Annex A to this report)

II. Short Message Service

Short Message Service (SMS) enables mobile cellular subscribers to send and receive alphanumeric messages from their handsets. SMS messages may be no longer than 160 alphanumeric characters. SMS messages may also originate from other devices or networks such as personal computers (PCs), personal digital assistants (PDAs) or websites. Like electronic mail, this service enables users of mobile devises to exchange short text messages with other users, including those of different operators, whether locally, nationally and internationally.

SMS or "text messages" (described more fully in Annex B) have revolutionized the telecommunications market. Today, mobile cellular users around the world consider text messages to be an essential communications mechanism. The service responds to consumers' combined need for access to information and mobility.

Mobile subscribers in Venezuela are no exception to such global trends. Since mobile terminal equipment normally includes voice and data capacity, SMS services in Venezuela are considered an essential tool for communication among users and a necessary component of mobile cellular service. In addition, this technological evolution has opened the way for third generation mobile services that enable the convergence of voice, data and video.

III. The Movilnet and Digitel Case

On 15 February 2002, CONATEL ordered Telecomunicaciones MOVILNET, C.A. ("Movilnet") and Corporación DIGITEL, C.A. ("Digitel") to interconnect their SMS platforms.

The following summarizes their general, technical and economical conditions:

- Movilnet C.A., a licensed cellular operator since 1992, transports over 120 million SMS per month, collecting USD 0.025 per message.
- Digitel C.A., a licensed Rural Telecommunication Services operator since 1998, transports over 100 million SMS per month, collecting USD 0.05 per message.
- On 24 May 2001 Movilnet and Digitel entered into an agreement by which both parties would establish the terms and conditions for the connection of their SMS platforms within 180 days, if technically feasible. Due to their failure to reach a complete agreement (they were able only to agree to use the Short Message Peer to Peer[2] protocol), CONATEL initiated administrative proceedings to develop the terms and conditions for the interconnection of their respective SMS platforms.
- Each party presented its respective arguments to CONATEL. Digitel alleged that technical limitations in its network prevented the immediate interconnection with Movilnet's network. More specifically, Digitel's invoicing platform was not capable of applying different tariffs to the same service. Thus it was not possible to establish one tariff for SMS traffic terminating on the Digitel network and a different tariff for SMS traffic terminating on the Movilnet network.
- Similarly, Digitel argued it was temporarily unable to generate Call Detail Register (CDR) of the MT Type[3].

[2] SMPP, or Short Message Peer to Peer, is messaging protocol for the integration of applications with wireless mobile network messaging systems. With SMPP an application developer can send data to mobile devices or to other applications over SMSC (Short Message Service Centre).

[3] CDR of the MT Type is an optical connector developed for interconnecting optical fiber ribbons quickly, easily and economically. In addition to interconnecting optical fibers, the connector finds wide-ranging, high-volume

- After a thorough study of the facts CONATEL ordered the parties to effectively interconnect their respective SMS platforms.
- The interconnection terms were established taking into consideration the technical work that had to be carried out by the parties enabling them to transmit short message services under optimum quality conditions.
- The parties had also been unable to reach agreement on economic terms. Moreover, the parties failed to provide CONATEL any information with respect to their respective cost structures. Thus, CONATEL considered conducting a benchmarking study as it does in the case of fixed-mobile interconnection.[4] Unfortunately, the information gathered by CONATEL was insufficient to establish referential values, and thus CONATEL was unable to use a "Benchmark" system to determine access and use costs among the parties.
- CONATEL, nevertheless, found that the "bill and keep" system was applied to SMS traffic in some European countries.[5] After a careful study of the experience in the United Kingdom (UK), CONATEL ordered the parties to use the "Bill and Keep" method, at least initially. The parties are obliged to notify CONATEL in writing if they will continue to use this scheme or if they agree to adopt a different structure within three months of implementing the interconnection of their two platforms.
- Under such commercial terms, Movilnet and Digitel are not required to pay each other for terminating messages on each other's network.
- Under this temporary measure, the parties were subsequently required to determine the volume of traffic between the two platforms, and to estimate the volume of messages managed by each platform, and the respective costs the volume of messages generate.

---

applications such as interfacing components for routers, switches, high-speed parallel optical links, and other telecommunications systems.

[4] Benchmarking is mandatory under the Venezuelan interconnection rules for fixed to mobile interconnection. It is not mandatory in the case of SMS interconnection.

[5] A "bill and keep" interconnection charging regime is an agreement between network operators to net off their interconnection charges to each other so that no net interconnection payments are made. Under a bill and keep arrangement the net payment between carriers for the origination and termination of interconnected calls is zero. This does not mean, however, that carriers view the cost of interconnection as being zero. When a bill and keep regime is adopted, the long-run incremental price for the termination of interconnected local calls is an opportunity cost. It is the cost saved by not making termination payments to other carriers. Bill and keep is therefore like a two-part tariff in access charges. The fixed fee equals the own-network costs for termination of the call generated by the other network, while the variable fee is zero.

- Short Message Service interconnection is a novel regulatory issue. CONATEL is the first Latin American regulatory body to order the interconnection of SMS platforms.
- It is expected that CONATEL's SMS interconnection decision will bring users of both mobile networks great benefits. It enables the interchange of text messages, which have great demand and are perceived as an essential service by users in Venezuela.

Results of Prior Decisions: All SMS providers are connected

The interconnection orders issued by CONATEL related to public telecommunications networks established general, technical and economical conditions to be applied to resolve disagreements among operators. CONATEL's SMS interconnection decision builds on these earlier decisions to ensure that mobile cellular subscribers in Venezuela can exchange text messages among themselves.

Annex A

CONATEL's interconnection orders may be downloaded from its website at: http://www.CONATEL.gov.ve/ns/interconexion.htm. The first interconnection case was brought to CONATEL after basic telephony services opened to competition in 2001.

The following is a list of the interconnection disputes CONATEL has resolved:

1. TELCEL C.A. is a mobile cellular operator that was the first operator qualified to provide basic telephony services in Venezuela. When TELCEL and CANTV were unable to reach an interconnection agreement within the legally required timeframe, CONATEL proceeded to issue an interconnection order.

2. Interconnection orders were issued with respect to TELCEL, C.A. and other mobile cellular operators, including Telecommunications Movilnet, C.A. and Infonet, Redes de Información, C.A..

3. At the end of 2001, mobile cellular operator Cooperación Digitel, C.A. and Veninfotel Comunicaciones (Vitcom), C.C. failed to reach agreement on a variety of interconnection issues. CONATEL subsequently issued an order for the interconnection of their networks.

Annex B

SMS, EMS and MMS Explained

Short Message Service (SMS) is a two-way simple text service for sending short (160) characters) alphanumeric messages to mobile phones. SMS can be used for both “point-to-point” as well as cell-broadcast modes. The service is not unlike e-mail as it involves the asynchronous delivery of text messages, with the difference that messages are delivered directly to a mobile handset and can thus be received by the user anywhere and at anytime. Once a message is sent, it is stored at the SMS message center until it is successfully delivered of “forwarded.” This is knows as a “store and forward” process.

Once a message is sent, it is received by a Short Message Service Center (SMSC), which must then send it to the appropriate mobile device. The SMSC sends an SMS Request to the home location register (HLR) to find the roaming customer. Once the HLR receives the request, it responds to the SMSC with the subscriber's status, reporting whether it is inactive or active and where the subscriber is roaming. If the response is "inactive", the SMSC will hold the message for a period of time. When the subscriber accesses his device, the HLR sends an SMS Notification to the SMSC, and the SMSC attempts delivery. The SMSC transfers the message in a Short Message Delivery Point-to-Point format to the serving system. The system pages the device, and, if it responds, the message will be delivered. The SMSC receives verification that the message was received by the end user, categorizes the message as "sent" and does not attempt to send it again.

As it charged for according to the number of characters, however, SMS is not suitable for lengthy communications—a 640 character message costing four times as much as a 160-charcter one. SMS can originate either on a mobile phone or through a Web-based SMS service. Already, a number of instant messaging (IM) providers have introduced services whereby Internet users can send and receive SMS.

The phenomenal growth of SMS was predominantly user-driven, rather than the result of any targeted marketing efforts. In fact, operators hardly expected this simple technology to become a popular service and a significant revenue booster. Once the potential of SMS became clear, however, companies began exploiting the broadcast mode and offering a wide array of billable information

services. These services include local and international news, stock updates, weather forecasts, banking information and travel information.

As the phenomenal success of SMS seems to indicate, person-to-person messaging will most likely continue to drive mobile data revenues for some time. Correspondingly, the adoption of EMS (enhanced messaging service) and MMS (multimedia messaging service), in combination with the increased use of prepaid services, are likely to become crucial drivers of the mobile Internet.

EMS is similar to SMS in terms of the store-and-forward process, but also includes additional features, such as the transmission of a combination of simple melodies, pictures, sounds, animations, and modified text as an integrated message. The combination of several short messages together will be a key technical feature of EMS.

MMS, based on a new global standard, will provide more sophisticated messaging than EMS and SMS, allowing users to send and receive messages with formatted text, graphics, audio and video clips. MMS will require new network infrastructure as well as MMS-enabled handsets. Unlike SMS and most EMS, MMS are not limited to 160-characters per message.

Source: ITU Internet Reports, Internet for a Mobile Generation, September 2002 and http://isp.webopedia.com/TERM/S/short_message_service.html