

Virtual POI for MVNO and Partner Management for LLU, BSA and WLR

# Following Market Changes and Regulations

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## Introduction

To follow the changes in the telecom industry, one must be prepared before they occur. This simple rule affects companies in areas that require time and effort to be ready before not during the change. Thus from the perspective of a software vendor for telecommunications market, it is crucial to invest wisely into their own portfolio of solutions.

By focusing on interconnect, revenue sharing, partner-to-partner billing, vendors can find changes in approach in the way agreements are constructed. This follows transforming business supporting software. This article takes a look at two decisions that Telco operators face:

- Virtual POI for MVNO
  - In context of reporting features for SP/MVNO agreements
- Partner Management for LLU, BSA and WLR
  - Managing fast growing number of data, agreements and SLA

## Virtual POI for MVNO

The definition of an agreement between hosting network operator and MVNO can be based on different business parameters. It can be based on numbers showing how revenue and affiliated costs the virtual operator generates for the host. By having such information, hosts can differentiate charging for services according to agreed rules. This means that during the billing period usage data traffic needs to be monitored and pricing has to take the proper sums of events (calls, SMS, bytes) into account.

Achieving this is not as easy as it sounds. Current billing systems are not capable of grouping huge amounts of data with different dimensions and calculate proper measures. It is not very complex if its “only” voice minutes, but new services request more: bytes, clicks grouped by type, class of service, etc.

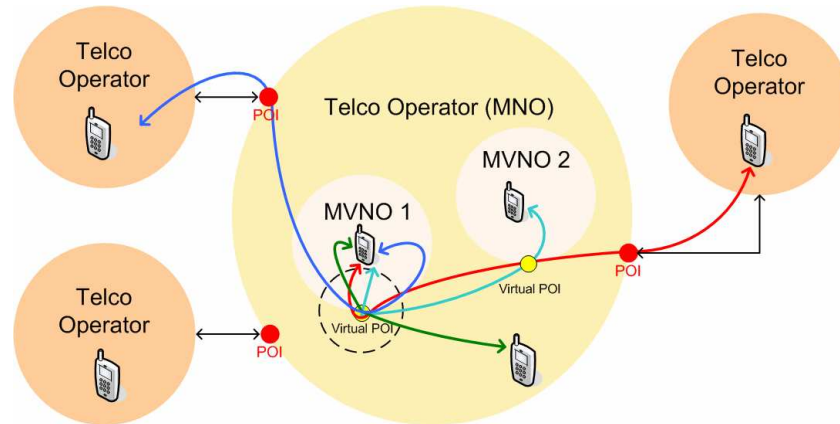
Putting all the pieces together we get what we need: to extract traffic generated by SP/MVNO, to perform proper grouping and based on this calculate pricing according to signed agreement.

To **extract the traffic** we need to observe events on virtual POI with MVNO. With the virtual POI one can understand setting up point of interconnection within local calling area different from the local calling area where the physical POI resides. From the point of view of hosting network operator (host for MVNO) it can be also understood as virtual point from where traffic generated by MVNO will be reported.

To **perform grouping** and using it to calculate further price deduction one needs to introduce some kind of data warehouse functionality which enables faster grouping of huge amounts of data with the freedom of selecting dimensional parameters (e.g. grouping by origination, termination number, termination operator, type of services).

Referring to the figure above, the hosting operator (MNO) retrieves information about traffic of MVNO 1 over the virtual POI – traffic that is originated/terminated within MVNO network space (grouping by termination/origination inside/outside MNO). Please note that traffic has to be recognized and grouped

by origination/termination E.168 numbers (A or B numbers), based on URI, IP address, trunk group or others – in general based on many different event record fields.



To make **charging and reporting** based on revenue/cost generated by partner (SP/MVNO) possible, there is a need for multi-dimensional grouping - essentially acting as “mini data warehouse” feature. Based on this function operators can pick which dimensions to use for grouping (e.g. terminating operator, set of prefixes) and which measures to sum-up (e.g. sum of minutes, SMSs, bytes transferred).

The billing system supported by rule-based charging and rule-based reporting makes it possible to implement really sophisticated agreements that can respond to fast changing business needs.

## Partner Management for LLU, BSA and WLR

Due to the prior business models from many years ago, the problem with exchange of information between partners was not deemed to be as important as it is today. This was chiefly because the total amount of information to exchange between partners was not as large.

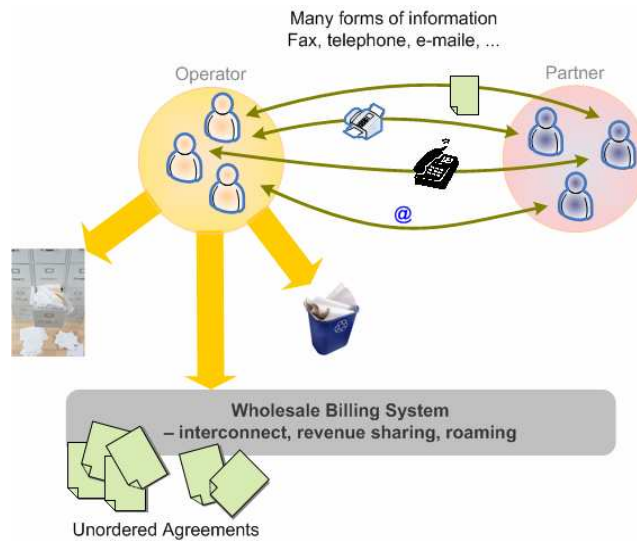
### Large amount of information

Currently, the importance of efficient partner management can be perceived when the operator rents an access line to an external partner. The external partner then sells network access services for end subscribers (WLR, BSA). The regulative environment has demanded for more open environments to increase the competition, thus fuelling the popularity of the current business model. The business scenario of line rental brings also extensive market information that is often exchanged between partners and operators.

### Multiple applications and flows of information

Having multiple applications to handle partner communication and information exchange can lead to situation where introducing new functionalities to the existing system becomes complex, convoluted and expensive.

Many different systems and forms of communication (voice, internet, SMS) cause complex interaction between partners, and leads to increased operational costs and also frustration amongst the partners.

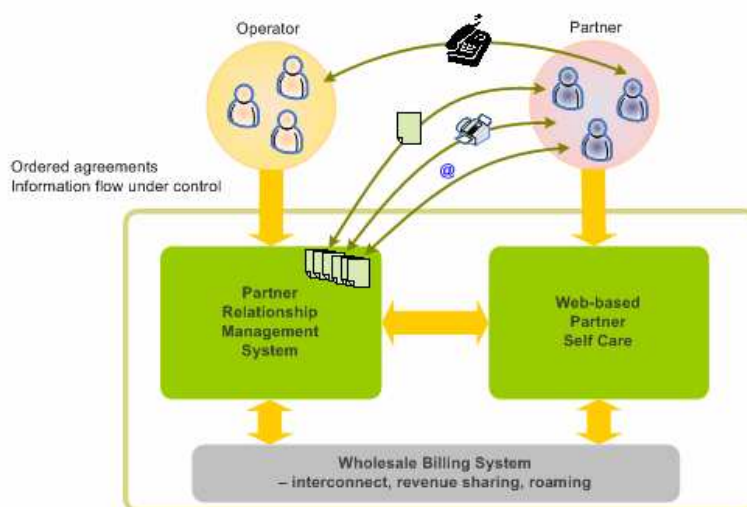


### Complexity of SLA audit

SLA audit process can be too complicated to perform efficiently without an appropriate PRM system. Typical parameters in the SLA agreements can be time limitations for problem resolving and quality indicators for specific services. For example, a trouble ticket should be resolved within specified time to avoid the SLA violation.

### Solutions for the business problems

Automated business processes can be used during all stages of interaction with partners: during agreement definition, price management, communication channel management (e.g. automatic processing of e-mails) and management of orders. Bringing high level of automation for all these processes (and not limited only to the mentioned ones) reduces the need to use multiple systems and also reduces the effort that is needed to manage the system properly.



For the operator that opens its own network and signs wholesaler line rental or bit stream access agreements means that in short time period (weeks, few months) there comes requests for hundreds of thousands lines to be unbundled. End-customer is served by the partner company, but same

partner requests the operator to keep the SLA for each line individually, according to agreed parameters.

From the partner's point of view, the communication experience with the operator will be better as the partner gets up-to-date information about the statuses of the orders, agreements and prices.

### Insight into the future trends

The telecommunications environment is changing as operators migrate their legacy networks to IP-based networks. This brings more business opportunities for third parties, in forms of advertisements, loyalty programs etc. The changing environment that involves more partners in the business scenarios also has an effect of blurring the distinction between partner and end-subscriber roles. In the Telco 2.0 environment, the end subscriber may actually provide content towards the operator, to be used in the offered services. In exchange for the content, the end subscriber may get commission or discounts for his usage of the services.

## Conclusions

Increasing the number of partners and adding complexity to agreements denotes needs for proper tools for operators to fulfill the new business requirements. Changing business models already impacts business support systems. But enabling proper charging and billing is not enough, current solutions must be extended with functions that so far have existed in different areas of interests – one of those are data warehousing features supporting charging and billing as well efficient partner management with integrated SLA monitoring and alarming.

## Comarch Advantage

Comarch is a leading Central European software vendor, offering among others the services for Telecommunications. Our company specializes in BSS and OSS having in its portfolio such solutions like Comarch Convergent Billing (real time for pre- and post-paid services), CRM and PRM solutions, self-care portals, mediation, service and network management and many more. We offer the integration, implementation and we have our own data center.

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### Glossary:

LLU – Local Loop Unbundling  
BSA – Bit Stream Access  
WLR – Wholesale Line Rental  
POI – Point Of Interconnection  
SP/MVNO – Service Provider/Mobile Virtual Operator  
SLA – Service Level Agreement  
PRM – Partner Relationship Management solution