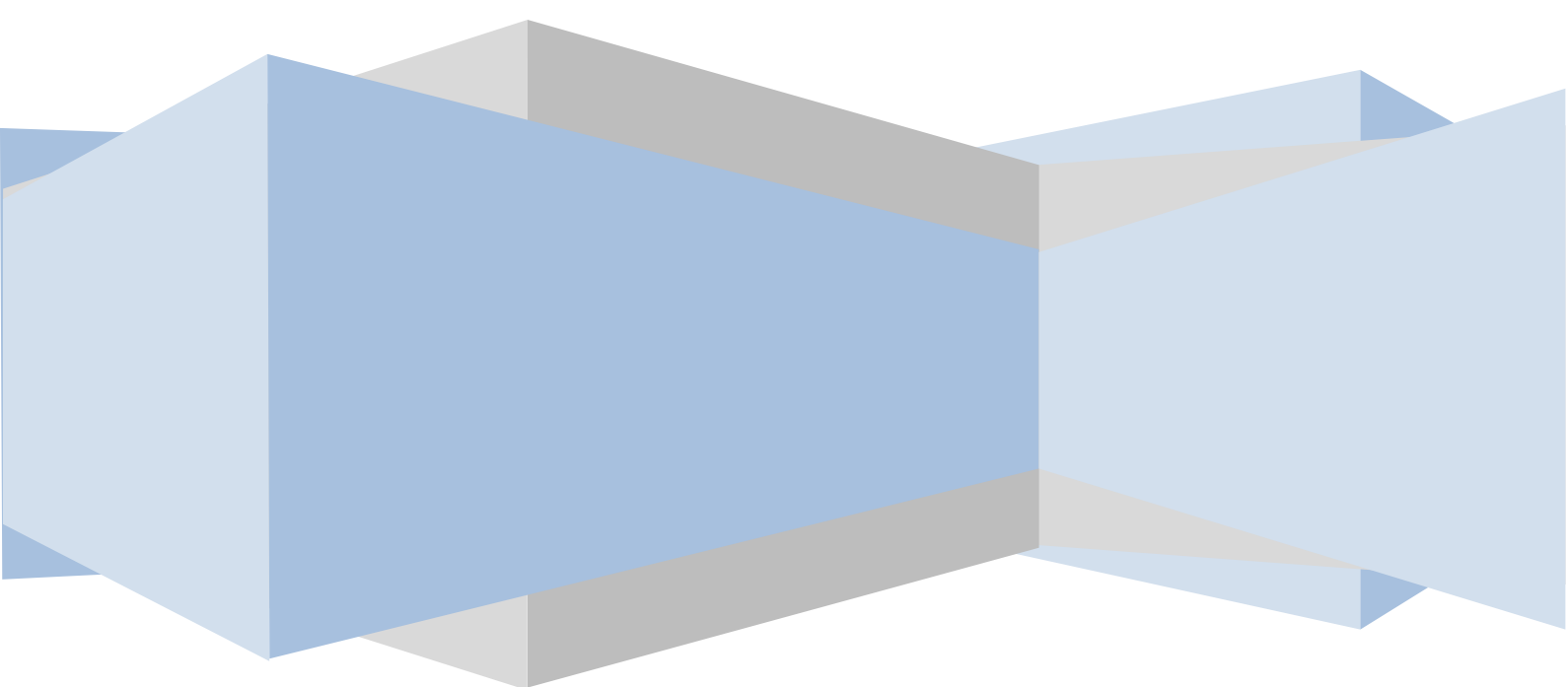


# **Atrinet NetVAS Solution Product Description**



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## About Atrinet

Atrinet is an Independent Software Vendor (ISV) and Services company specializing in Network Transitions and Multi-vendor SDN-ization.

Our comprehensive suite of products and services make legacy and emerging network technologies work together, helping Communication Service Providers and Enterprise Companies transition to a better future using our flagship product NetVAS.

Atrinet's mission is to help Communication Service Providers in their Network Virtualization Transformations by moving the next generation VAS products

Atrinet was chosen by Nokia networks to develop the Nokia VAS (messaging) products worldwide, for 2015 Atrinet took the ownership of this products and transfer it to the next generation (Cloud and Virtualization)

The NetVAS installed in number of leading communications firms like AT&T, China Mobile, Orange, and Vodafone Group.

## Worldwide presence

As a global organization Our experts are located in APAC, Europe, Middle East and North America:

- Israel, Hod-HaSharon: Atrinet Care HQ, Atrinet HW labs, R&D Operations
- UK, London
- USA, Dallas
- China, Chengdu



## Solution Overview

Currently, messaging applications bring the bulk of the Communications Service Providers data revenues. In order to stay competitive, CSPs (Communication Service Providers) must offer new services fast with an attractive price. To meet these requirements, CSPs have to look for ways to ease the integration of new services, and at the same time lower the costs associated with the service platforms

Our solution supports the most popular Cloud / Virtualization in the market today, like VMware, NFV OpenStack, Google/Amazon Cloud.

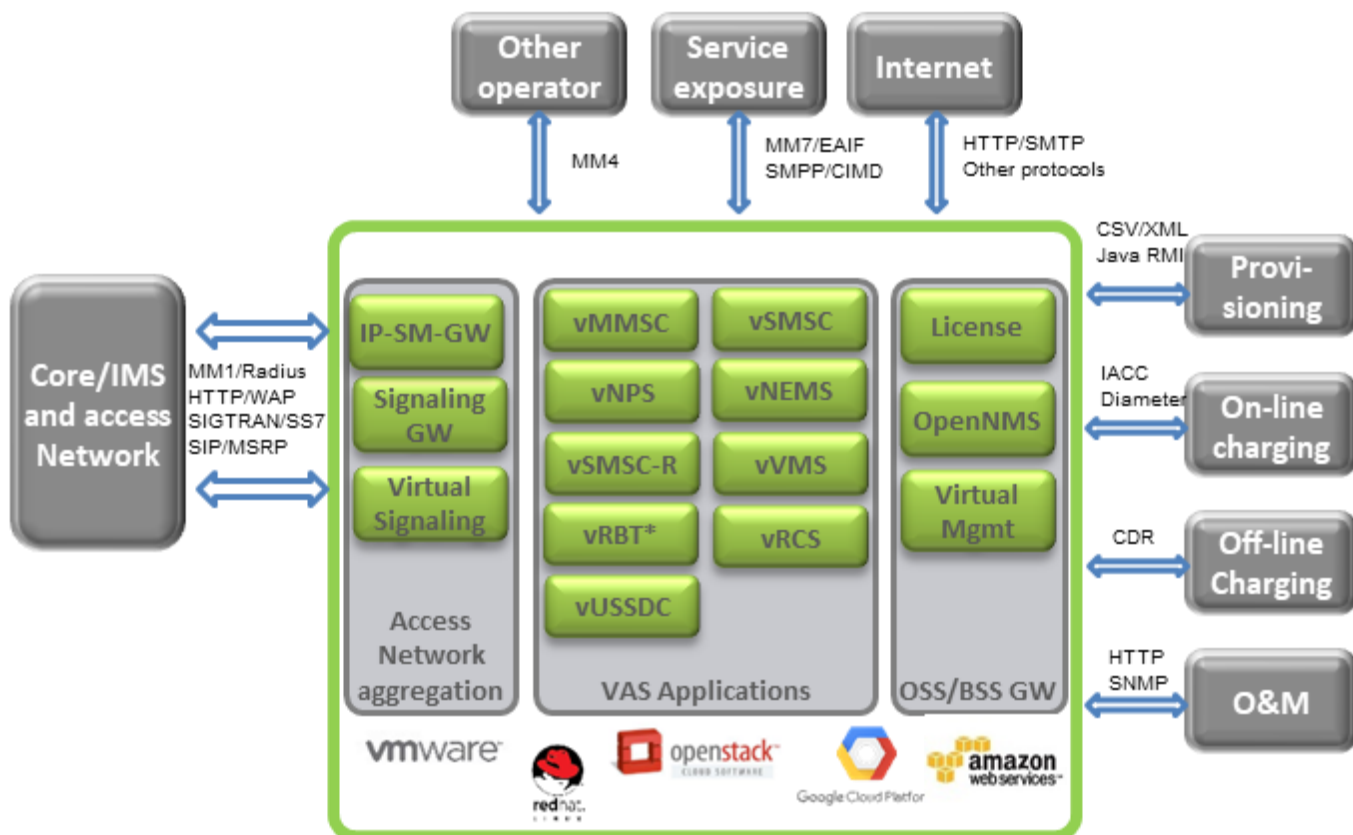
Atrinet NFV architecture provides CSPs with the elasticity to respond to market demand and behavior and services can be added to the existing NFV environment with minimal disruption to the network infrastructure.

Atrinet market-leading solutions are designed and developed to enable flexible deployment models, particularly for those CSPs undergoing network transformation.

Atrinet Networks VAS as a Service (VaaS) cloud architecture, supporting the Google and Amazon cloud. It significantly reduces the cost of deploying and operating standard VAS solutions (For example, Messaging and Browsing). It takes advantage of a scalable, reliable, and secure global computing infrastructure, it also completely changes the CSP's VAS environment with a multitude of other benefits, for example:

- Easy to use
- Flexible
- Cost-Effective
- Future-Proof Infrastructure
- Seriously Powerful Data & Analytics
- Reliable
- Scalable and high-performance
- Secure.
- Providing easier support of MVNOs
- Hosting operations for affiliates

## High-Level Architecture





## Supported platforms

VaaS solution can be customized according to your specific needs. You can select which products (SMSC, MMSC, NPS, NEMS and Voice Mail) you need, and a number of product instances (VMs) may vary according to required capacity. The separate dimensioning tool exists for estimating what is the correct configuration for each customer according to traffic and subscriber profiles. Actual hardware and distribution of VMs depend on each customer.

Atrinet VaaS can be deployed on the following platforms:

- **No vendor lock-in on hardware (physical server installation)**

Atrinet VaaS is not linked to any specific server vendor or model. Any cloud certified x86 architecture based server is applicable to provide capacity into the cloud. CSP can choose the vendor and model of their preference. Servers are either provided by Atrinet or by the CSP.

- **VMware virtualization Data Center**

Atrinet VaaS applications are packaged and distributed in Open Virtualization Format (OVF). This allows the usage of any virtualization vendor supporting this format.

Atrinet VaaS has been tested on VMware and RHEV (RedHat Enterprise Virtualization). This allows CSPs to balance the cloud functionality with cloud costs based on CSP requirements.

We can install the VAS application on any CSP VMware Data Center

- **NFV OpenStack**

Atrinet VaaS over NFV OpenStack helps you create new ways of working by becoming faster and more efficient

Our cloud innovations help you use NFV to meet your needs with greater speed and efficiency. They also help you shift to lean operating models so that you can reduce lifecycle management costs and launch new services faster.

- **Google / Amazon Cloud Ready**

Atrinet VaaS has been tested on Google and Amazon Cloud.

This allows CSPs deploy VaaS Applications much more quickly in the first place, and you can iterate, adapt, and extend it more rapidly over time.

PaaS (Platform as a Service) allow CSP Focusing on business development resources and spending less headcount on unneeded Platform Support.



## Atrinet SMSC

Atrinet SMS Centre is a high capacity, scalable solution for person-to-person short messages and value added services. Using a commercial UNIX-based computer platform, SMS Centre provides open interfaces to existing data systems, letting you provide a wide range of new, innovative services to your GSM mobile users using a variety of charging possibilities.

3GPP specification TS 23.040: Technical realization of the Short Message Service (SMS), Release 14.0.0

### **Key operator benefits of Atrinet SMS Centre are:**

- Meets flexibility and scalability demands of operators
- Possibility to check the credit of prepaid subscriber before the message is processed by In-Advance Credit Check (IACC) feature included in the SMS Center
- Message Collecting Interface enables the SMS Center to gather incoming short messages, e.g. SMS voting, and deliver either the final result or regular status updates to an application as file transfer.
- With networked SMSC it is possible to combine several single SMSCs into one logical entity providing single point of administration and especially for high volume application possibility to use the capacity of all SMSC hosts with automatic intelligent load sharing between the single hosts
- Fast-forward MT is a direct message routing method. It simplifies and speeds up the message handling procedure because it keeps messages in a cache without storing them into the SMS Center database. In other words, an SMSC can simultaneously act as an SMS Router and SMS Center.
- With Virtual SMSC (and Online Closed User Group) it is possible to host SMS services for corporate and service providers like their own SMS Center

### **Main subscriber benefits are:**

- Mobile users can use different SMS services, for example, fax and e-mail, more easily without having to alter the mobile phone set-up
- Provides a convenient and fast way of receiving valuable information from the service provider
- Subscriber belonging to a certain group can send messages with reduced fee defined by the operator within the group or between certain groups. They are also able to block messages from unwanted sources like premium services or groups of other subscribers.

### **Personal services:**

The following seven services are provided in the SMS Center:

- Personalized white and black list (PWNB)
- Personalized content- based filtering (PCBF)
- Signature (A-subscriber service)
- Personalized distribution list (PDLA)
- Auto-reply (B-subscriber service)
- Carbon-Copy (B-subscriber service)
- Forwarding (B-subscriber service)

Atrinet Short Message Service Solution consists of the SMSC that provides the point-to-point short message service (SMS) in GSM/GPRS/3G/4G (Using Atrinet IP-SM-GW) network. Short messages can be sent and received by mobile stations and by applications.



**The SMS Center handles incoming and outgoing messages:**

- from mobile terminals to other mobile terminals
- from mobile terminals to external/internal applications
- from external/internal applications to mobile terminals.

Atrinet/ SMS Center offers a rich set of features and superior scalability, enabling personalization of SMS traffic. With Atrinet 's SMS Solution, the network operator can provide different levels of short message service, for example, charging a premium for prioritized messages or promoting low-cost service. This gives the operator the ability to provide competitive SMS services for different market needs.

## Atrinet MMSC

Atrinet MMS Solution comprises a set of network elements and services that enrich the MMS experience: MMS Center, Profile Server, and Multimedia Application Gateway.

3GPP TS 23.140, Versions 5.5.0, 6.3.0 and 6.10.0, and using SOAP 1.1 message format.

- **MMS Center** handles (receives, stores, delivers) messages composed of text, images, and other media types (for example audio and video) in the network. MMS Center enables the development of new innovative services for network mobile users.
- **Profile Server** acts as the MMS subscriber database that enables messaging service personalization.

Profile Server ensures the consistency of the data since the profile information is stored in a single place and only active copies of the profiles reside in the network element.

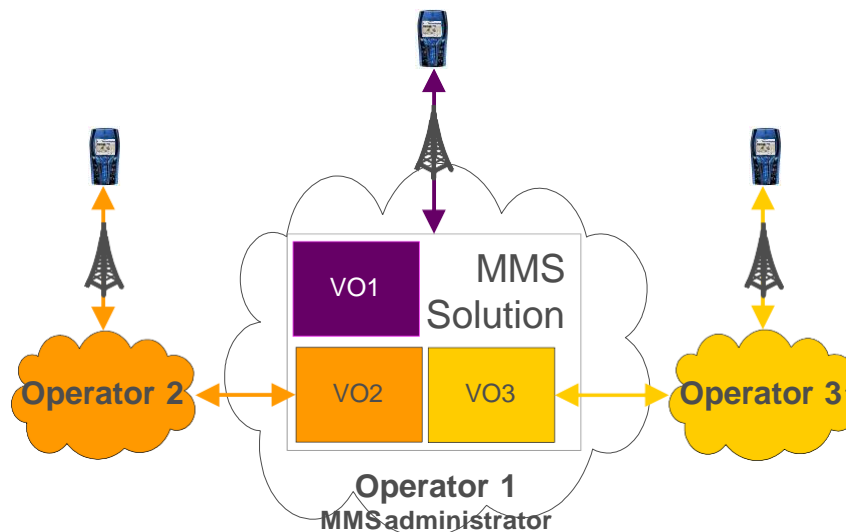
- **Legacy and Album application** make possible for subscribers without MMS enabled phones to receive multimedia messages through a web interface and provide increased message storage and album like views of multimedia messages through the web. Multimedia Application Gateway provides the legacy and album services in the MMS Solution.

Atrinet MMS Solution can be easily integrated into operator's networks since it provides standard interfaces for communicated with other elements in the network.

Atrinet MMS Solution full high-end configuration provides the possibility to scale the MMSC system by having more than one MMSC cluster in parallel. Load-balancing switches between WAP/IP gateway(s) and MMS Center front-end servers take care of routing traffic to different machines. There are several databases for multimedia messages in this configuration. Each cluster database contains different messages.

Virtual MMS allows the same MMS Solution elements to be used by several virtual operators. MMS services can be tailored to each hosted operator separately, reserving the administration's tasks for the hosting operator. Each Virtual operator can administrate their own subscriber base thus a load of management tasks can be shared between the hosting and hosted operators keeping the storing of data centralized.





With the Virtual Operator concept, small operators and MVNO can start offering MMS service faster. Virtual Operator focuses on service development which is their core competence. Thus, no investment is needed on HW, SW, Operations and Maintenance as well as no need for MMS infrastructure competence or integration effort. Big operator can provide MMS service to affiliates from a centralized location with a unified admin interface saving in OPEX.

Virtual Operator introduces not only a concept of infrastructure usage; it also allows new business models based on MMS infrastructure sharing or leasing. This new source of revenue is based on the idea that an operator can extend the MMS business and target not only mobile subscribers but include also service providers.

## Atrinet NPS

Atrinet Networks Profile Server (NPS) is a centralized and trusted subscriber data management and profile resolution system of Atrinet Networks. Using NPS, operators can easily manage the service subscriptions provisioned to the NPS, for example by SAAM, and manage their access to their growing personalized mobile service offering from a single network element. NPS is used as the subscriber profile database for Atrinet NetVAS Solution. NPS also provides support for Simple Object Access Protocol (SOAP) and Lightweight Directory Access Protocol (LDAP), which allows NPS to work in a multivendor environment and integrate with other network elements more easily.

In addition to a database management system, NPS applies business logic to the profile fetching transactions. It provides highly advanced data resolution services to network elements such as MMS Center. For example, the MMS auto provisioning feature enables NPS to intelligently provision missing subscribers, allowing messages to be delivered correctly from the very first MM that is sent or received.

## Atrinet NEMS

The Network Message Store (NEMS) is a product of the MMS Center provided by Atrinet Networks. It provides the following features:

### Basic features

- Legacy message store to enable a subscriber without an MMS-enabled mobile

- phone to check incoming multimedia messages on the NEMS end user interface
- Multimedia message to short message conversion to converts the multimedia message with only text contents into a short message

#### Optional features

- Personal message store to enables a subscriber to store his/her incoming and outgoing multimedia messages to his/her own mailbox provided by NEMS, and also to directly send a multimedia message to NEMS for storage
- Multimedia message to Email conversion to enable a subscriber to send a multimedia message to an Email address
- Email to Multimedia message conversion to enable a subscriber to send an Email to a mobile phone

## Atrinet Voice Mail (3<sup>rd</sup> Party)

By merging voice messages with email, text, and Web interfaces, the Atrinet Unified Voice Messaging service goes far beyond other dedicated, keypad-accessed voice mail services. This Voice Messaging solution for SIP-enabled VoIP networks provides the following features:

- Voice Mail Services
  - Standard Voice Mail
  - Visual Voice Mail
  - Video Voice Mail
- Voice Mail alternatives
  - MMS Note
  - SMS Note
- Prepaid-related services
  - Call Me
  - Call Me Boost
  - Poke Call
- Business Services
  - Voice Business Card
- Call Completion Messaging
  - Missed Call Notification
  - Notify on Return
  - Notify after Busy

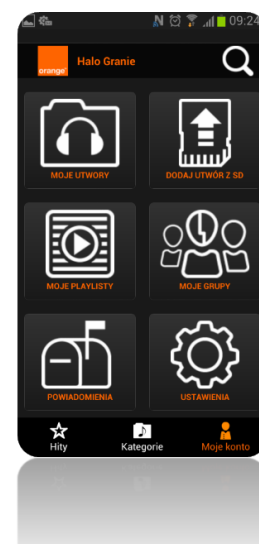


## Atrinet RBT (3<sup>rd</sup> Party)

We pride ourselves for mastery in Ringback Tones Service. We provide operators the complete package including service management and revenue maximization know-how. We are so confident that we even take the system costs on our side.

Key Features:

- Well-thought business model
- Best Customer Experience with:
  - RWD website
  - Mobile applications
  - Social Media applications
- Marketing know-how included
- Music content included
- Complete integration included



- Possibility of running in the cloud
- Revenue Share model welcome

## Atrinet RCS Communications-Suite (3<sup>rd</sup> Party)

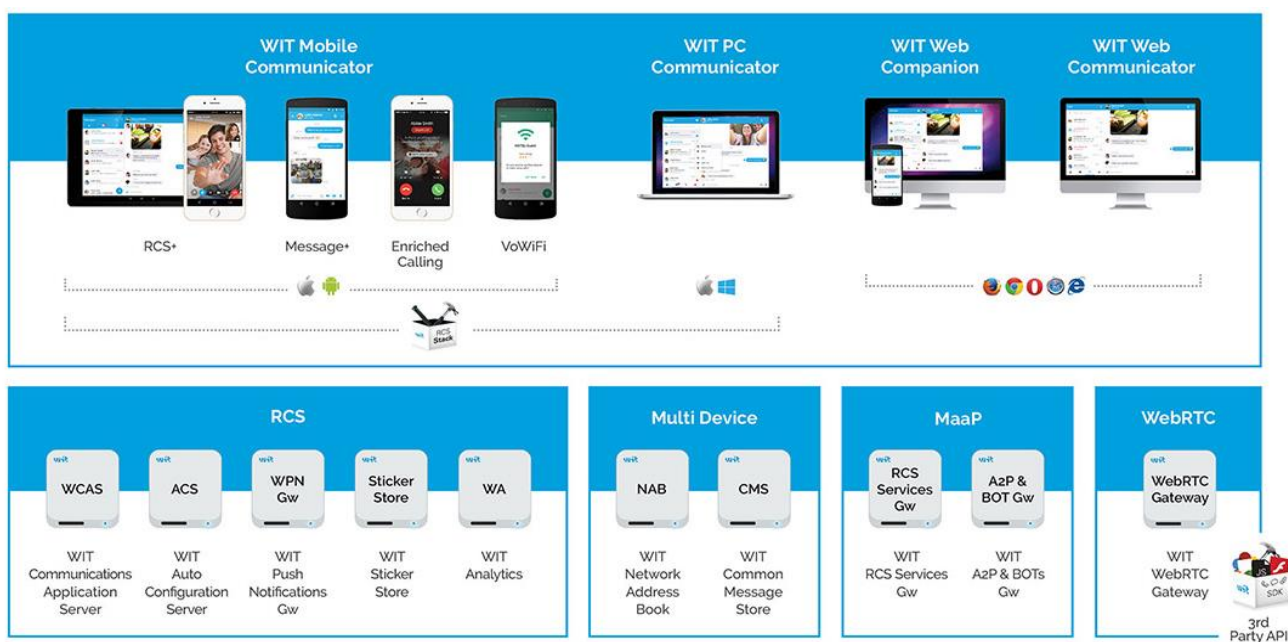
The RCS initiative from the GSMA is intended to provide a specification for future IP-based messaging, voice and multi-media services, through which mobile operators will be able to remain relevant as a service provider in the face of the threat from OTT players. RCS is predicated around the MSISDN as the key end user identity, and defines a uniform set of capabilities around chat, group chat, file transfer and in-call content sharing that are interoperable across all mobile operators (like SMS) and across native RCS delivered on OEM devices.

Most recently, GSMA Universal Profile, supported by Google, to unify the regional variances of RCS and to accelerate the mass-market reach of RCS in all Android devices. Whilst not aiming to extend the feature set of RCS, Universal Profile will simplify, unify and lay the foundation for future A2P BOT services to be offered to RCS communities.

Opportunities provided by RCS for mobile operators are:

- To remain relevant as a service provider (rather than just be an access provider) in the face of the cannibalization of messaging revenues from the OTT players.
- To offer a forward path for legacy messaging (like SMS and MMS), and to extend the reach of messaging and voice services to tablets, web and TV.
- To take advantage of new propositions like Enhanced Calling and VoWiFi, preventing the future cannibalization of voice revenues by OTT players.
- To exploit their combined 4.7bn users by offering conversational services through the RCS service using A2P BOTs.

The solution include RCS application for Android & iOS & Web





### Atrinet USSD GW

Atrinet's USSD Gateway enables operators to offer easy-to-use dynamic content services such as: account/balance inquiries, self-care, service discovery, activation and purchase, mobile banking, location-based content, entertainment, and roaming services. By using USSD channel, mobile operators can continue their reach to customers that haven't switched to smartphones or live in areas with poor data reception.

Our USSD GW , Including functionalities:

- Routing USSD codes
- Paging long messages
- queues and attempts of delivery
- throttling
- message filtering and proxy mode

### USSD Browser

Create a USSD Menu logic and execute it in the Gateway - verify the length of the content, pagination, page order and encoding processing.

Signalling: MAP (Sigtran) and IN/CAP



## Why Atrinet VAS

Atrinet provides full support of VAS platforms, our teams include R&D, Integration and support specialists capable of providing 24x7 care and maintenance to your VAS infrastructure.

Atrinet service portfolio includes change requests, fault mitigation and problem resolution, professional services for adaptation to new technologies (2G to 3G to 4G and beyond) integration of content applications, and much more...

The Benefits of Using Our VAS Experts:

- Cost effective: Lowering your operational expenses while maintaining high-profile SLAs.
- Worldwide presence: Our experts are located in APAC, Europe, Middle East and North America.
- Around the clock: 24x7 quick response team capable of logging-in and provide a solution.
- CRM in place: Ticketing system for tracking the resolution status at all stages.
- Certified solutions: Our infrastructure includes a fully equipped lab for testing software releases, produce technical information and test the solutions before you use them on a live network.
- Our expertise: We assembled a group of professionals with decades of experience in supporting SMSC, MMSC, Fun-Dials and Voice Messaging that will do their best to keep you satisfied.
- End-to-end Service: We are doing more than just support, we also analyze, conducting training and consulting seminars to ensure your CAPEX is reduced and ROI accelerates.

## 100+ customer





## Contact information

Phone: +972 (0)77 806 6900

Email: [contact@atrinet.com](mailto:contact@atrinet.com)

