



**Wavenet Prime**  
Unified Messaging  
Platform for CSPs and  
Telco Operators

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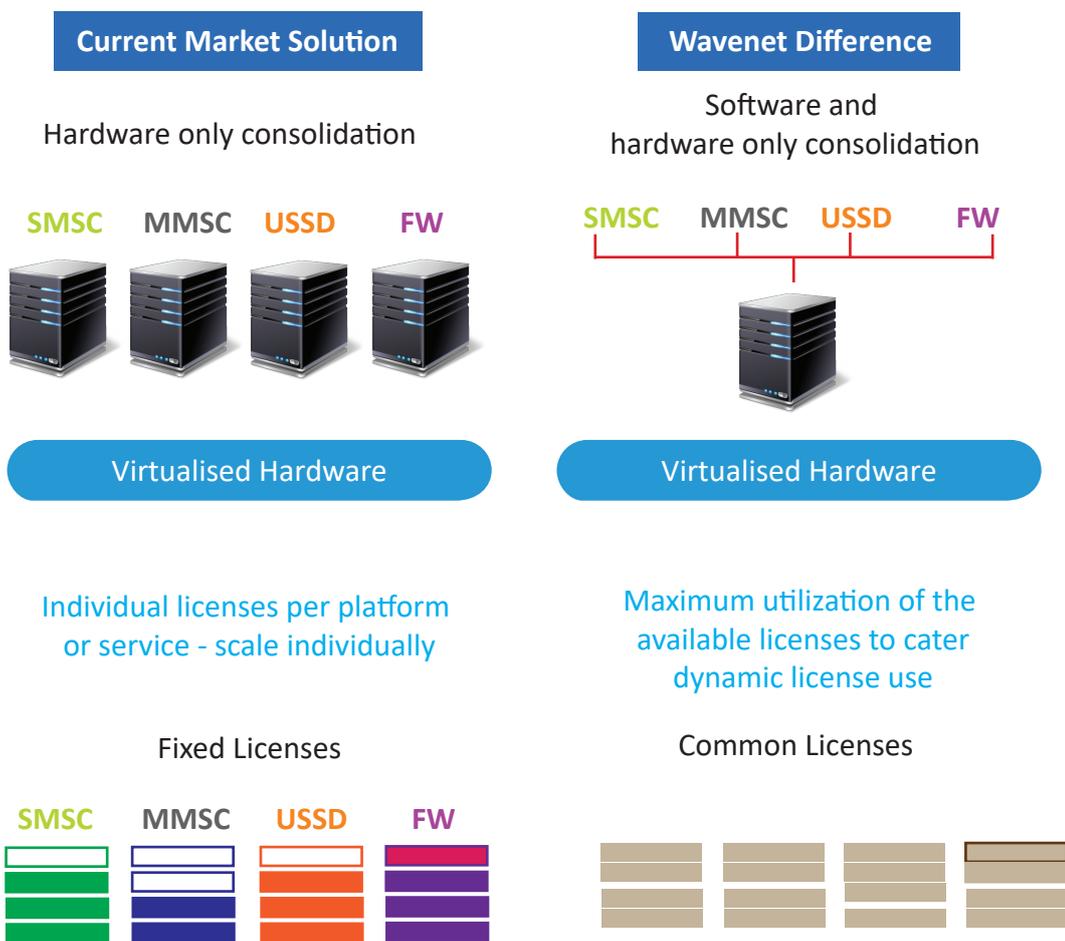
Prime is a scalable, high-availability messaging platform offered to CSPs and mobile operators, with capabilities in managing multiple messaging modes such as SMS, MMS & USSD.

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**CSP CHALLENGE  
IN MESSAGING**

- ⊕ Single purpose software and hardware: The practice of maintaining single-purpose hardware and software is a major concern for an operator, giving rise to poor distribution and utilisation of resources. Scaling up and outwards usually means significant investments in hardware and software.
- ⊕ Siloed nodes: point-to-point connections from solitary messaging modules to network elements implies a mesh of connections which is difficult to manage.
- ⊕ Individual licenses: Software licenses that are usually coupled tightly in modules that are not optimised for usage since some licenses will remain fully utilised, whilst others are kept idling even though the module with the fully utilised licence may be running at overcapacity and may again need additional licenses.
- ⊕ High operational cost: Siloed messaging modules also means the requirement for additional staff to maintain and monitor each module. This contributes towards increased overhead cost. Additionally, each module will be monitored in isolation with limited view of the entire messaging system leading to poor decision making.

Prime is a part of Wavenet’s award-winning Unified VAS solutions suite, which integrates key messaging applications on to a single unified servicing platform. The following diagram shows how Wavenet’s Unified VAS solution offers a unique proposition to CSP customers.



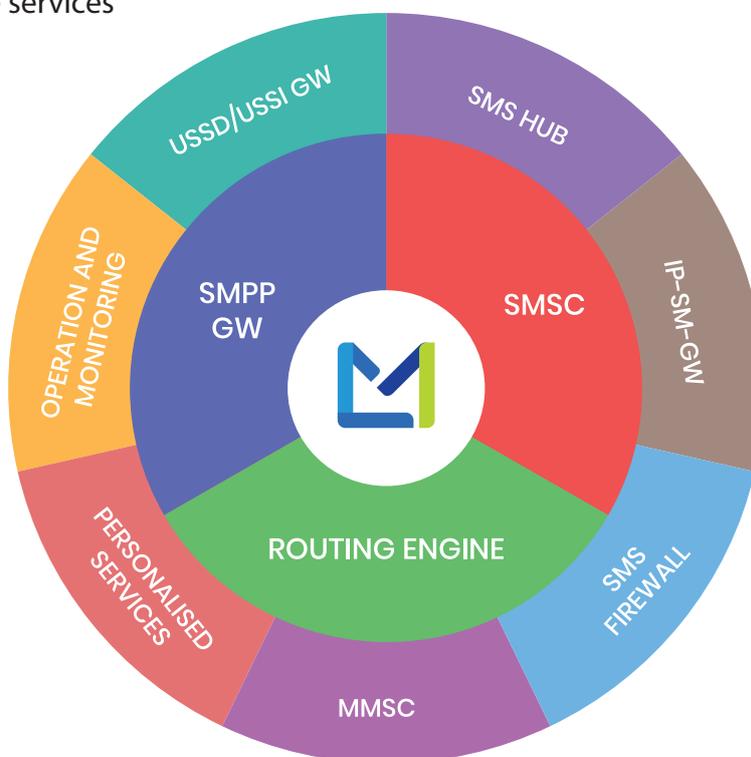
**BENEFITS TO OPERATORS AND CSPS AROUND THE WORLD**

Wavenet Prime is a proven solution that delivers the following benefits to operators and CSPs around the world.

- ⊕ Centralised platform for all telco messaging and media service needs
- ⊕ Single GUI for simplified management monitoring and configuration
- ⊕ Simplified integrations to network elements
- ⊕ Clustered architecture for resilience and high availability
- ⊕ Holistic view of messaging services
- ⊕ Consolidated platform allows optimised resource utilisation and load handling
- ⊕ Additional advertising /promotional opportunities
- ⊕ Shared licensing across services
- ⊕ Single authentication(CAM), charging(CCG) and reporting modules(CRS)

**PRIME SERVICES**

**Prime services**



**Routing Engine** – The Routing Engine is essentially the brain of the Prime architecture. This is used in all operations carried out inside of Prime when handling message traffic flows.

Features of Routine Engine:

- ⊕ Input Match
- ⊕ Actions
- ⊕ Alterations
- ⊕ Layered routing
- ⊕ SS7: SCCP/ TCAP/ MAP
- ⊕ IP: SMPP

**SMSC** - This has been one of our front-line products in messaging. The SMSC is responsible for receiving, storing and forwarding short messages (First Delivery Attempt, Store and Forward modes supported) in a mobile network. It supports Mobile Originating (MO) and Mobile Terminating (MT) text messaging.

**SMSC Features:**

- ⊕ MO
- ⊕ MT
- ⊕ P2P
- ⊕ A2P
- ⊕ FDA
- ⊕ SMPP
- ⊕ HUB

**IP-SM-GW** - Mobile networks are on the path to converting all communications IP (all-IP) which is named “Evolved Packet System”. LTE networks have advanced its packet core and discontinued the circuit switched core. The IP Media Subsystem (IP-SM-GW) is introduced to replace the CS core .

**IP-SM-GW Gateway Features:**

- ⊕ Supports IMS architecture
- ⊕ SMS over diameter in 4G
- ⊕ HSS Integration via diameter
- ⊕ Support MO for MSISDN less operations
- ⊕ SMS-GSMSC/IWMSC- legacy/IMS network message transaction
- ⊕ MT Support for MSISDN less delivery
- ⊕ SIP module
- ⊕ SRI support for MSISDN less delivery
- ⊕ GSMA NG.111
- ⊕ Report SM delivery Status for MSISDN less delivery
- ⊕ CSCF Integration

**SMPP Gateway** – Wavenet’s SMPP gateway is a module designed to industry standards that provide telco operators SMPP interface for handling messages between the External Short Message Entities (ESME), Routing Entities (RE) and Message Centers.

**Features of SMPP Gateway:**

- ⊕ Offloading and accepting traffic from an external SMPP client entity
- ⊕ Flow control and congestion avoidance
- ⊕ Message broadcast operations
- ⊕ Session security and encryption
- ⊕ Billing identification parameter and USSD

**USSD/USSI Gateway** – Prime has an inbuilt Unstructured Supplementary Service Data (USSD) Gateway which allows CSPs to manage USSD responses. The USSD services can be either pushed or pulled based on the messaging strategy. USSD services are considered to be one of the most popular methods for reliable communication between applications and client communication.

Wavenet USSI Gateway allows CSPs to seamlessly use existing USSD services over 4G/5G for a better subscriber interactions.

**Features of USSD Gateway:**

- ⊕ External application interface via SMPP and HTTP
- ⊕ Accept/reject USSD pull requests from mobile users
- ⊕ Push USSD messages to mobile users
- ⊕ Route requests to USSD browser

**Features of USSI Gateway**

- ⊕ CSCF integration
- ⊕ HSS integration
- ⊕ UE registration/deregistration
- ⊕ Message submit & delivery
- ⊕ Session continuation

**SMS HUB** – The SMS Hub is an efficient and effective solution for SMS inter-working between operators. In the Hub, the SMS traffic is routed amongst the operators through a centralised platform.

Features of SMS Hub:

- ⊕ GT translation
- ⊕ MNP
- ⊕ Firewall & personalised feature adding (MT traffic)
- ⊕ Configurable retry schemes
- ⊕ MAP version negotiation
- ⊕ SRI caching
- ⊕ High availability
- ⊕ Address manipulation
- ⊕ Source network re-resolution
- ⊕ RDS and alert handling
- ⊕ IMSI hiding
- ⊕ Inbound/outbound address validation
- ⊕ Transparency
- ⊕ Loopback feature- customisation

**SMS Firewall** – Wavenet’s SMS firewall integrates with the messaging line of products, and addresses concerns on message security. The SMS firewall provides protection against common types of spam and fraud issues.

Features of SMS Firewall:

- ⊕ SPAM
- ⊕ MT Faking
- ⊕ Flooding
- ⊕ MO Spoofing
- ⊕ GT Scanning
- ⊕ Phishing
- ⊕ Quarantine

**MMSC** - The MMSC inside Prime has the capability to handle multimedia messages and is highly beneficial to operators in widening their service offering to subscribers. The Wavenet MMSC has the capability to support person-to person (phone-to-phone) MMS messaging, as well as application-to-person and person-to-application MMS messaging. This increases the use of a CSP’s messaging service through the creation of wider opportunities for operators.

MMSC Features:

- ⊕ MO
- ⊕ MT
- ⊕ P2P
- ⊕ A2P
- ⊕ SMPP
- ⊕ Network Supports: GPRS, EDGE, UMTS, HSPA, 3G,3.5G
- ⊕ Interoperability between 3GPP & 3GPP2
- ⊕ Auto provisioning of subscribers
- ⊕ MMS specific CDR
- ⊕ Transaction logs for each interface
- ⊕ Blacklist for admins and users (Block users)
- ⊕ FTP Backup of Statistics / reports
- ⊕ Error reasons for failed messages
- ⊕ AAA functionality for MMSC via Radius

**Personalised Services** – Through personalised services, the Wavenet system is capable of providing value-added services for subscribed users. The operator can specify the charging as required.

Features of the Personalised Service:

- ⊕ Incoming SMS copy
- ⊕ Distribution list
- ⊕ Archival
- ⊕ SMS forwarding
- ⊕ Auto reply
- ⊕ SMS parental control
- ⊕ Incoming/outgoing number blacklist/whitelist
- ⊕ Sponsored SMS (SMS Advertisements)

**Operation and Monitoring (O&M)** - The Wavenet Prime system provides centralised management capabilities allowing administrators to easily configure and control using an intuitive GUI-based administration interface. Additionally, comprehensive traffic events log, statistical capabilities and Alarm/SNMP support of the system provides powerful diagnostic and monitoring tools that contribute towards maintaining a highly responsive system, while providing various types of statistic reports.

Features of O&M:

- ⊕ Provisioning
- ⊕ SNMP
- ⊕ Message store
- ⊕ Reports
- ⊕ Alarms

Product roadmap features:

- ⊕ SIGTRAN based messaging support on both Public and Private Cloud
- ⊕ IP based messaging via IP-SM-GW
- ⊕ IP based USSD messaging

**kVAS** - Wavenet's kVAS solution, also known as Kubernetes VAS, is a natural evolution and upgrade from its consolidated unified VAS application platform. kVAS offers the capability for Telcos to manage high traffic by creating new runtime environments without interrupting or shutting down the existing prods that are no longer required. It further assists in managing redundancies by spinning up pods and containers inside a different node within the cluster, in case of failures.

Benefits of kVAS:

- ⊕ Better, faster and more resilient VAS Services Orchestration

Ability for the prods to work as independent microservices allows the operator to cater traffic growth.

- ⊕ Automated deployments through CI/CD

kVAS deployed in k8 clusters running on a Telco Cloud Environment allows seamless feature updates or release upgrades deployed to Docker images in running pods with minimal effort.

⊕ No infrastructure overheads

Legacy methodologies involves the requirement of having a centralized infrastructure which is too expensive to maintain. Wavenet kVAS can easily be deployed on any already available Cloud environments of Telcos, be it private or public cloud.

⊕ Leverage third party integrations and canvas-based design

Our latest solution ahasa, a Kubernetes based deployment tool allows Telcos to leverage their own applications or of third-parties and other assets which can be onboarded using its low code enabled drag and drop function.

**In summary, Wavenet Prime offers the following key benefits to an operator with complex messaging needs;**

- ⊕ A consolidated platform to drive down Total Cost of Ownership (TCO)
- ⊕ Complete message flow control via rules and routing
- ⊕ Easily adjusts to messaging requirements to match evolving core network needs to operators.
- ⊕ Unified license helps to drive down daily operational expenditure
- ⊕ Optimum load balancing capability for smooth operations
- ⊕ Scalability of solution due to its feature flexibilities



Global Wavenet is a leading telco software, systems, and infrastructure solutions provider to wireless and wireline carriers, with core expertise in delivering carrier focused solutions specializing in digital transformation of BSS and VAS platforms through an extensive portfolio of messaging, voice, media, API orchestration and rich digital channel enablement. Wavenet has long-standing expertise working with multinational companies around the world, and our award-winning technology solutions portfolio assists Wavenet clients to stay ahead in the market and gain a competitive edge, while optimizing revenue and ROI.