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USSD GATEWAY FOR 2G/3G NETWORKS

Modulo's Unstructured Supplementary Services Data (USSD) Gateway is a network element that connects between the mobile signaling network (SS7) and HTTP-based Value-Added Service Applications.

USSD applications can create new revenue streams for the mobile operator and its business clients. USSD can be used for real-time charging, content delivery, polling and surveys, banking services and more.

The USSD Gateway allows subscribers to send USSD messages in order to receive information and services from the operator. USSD messages are session-based, meaning they require an online continuous connection. This makes USSD messaging much faster than SMS messages (no Store-and-Forward). Our simple and easy RESTful HTTP API allows any web developer to easily create new USSD applications for the mobile network.

Solution Features

- Full Compliance with both Phase 1 & Phase 2 USSD standards

- A simple and easy to use Restful HTTP API, which allows for the development of additional USSD services by any web developer.

- High speed message transfer

- Highly scalable architecture

- Allows easy creation of menu-based services

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USE CASES EXAMPLE

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User Account
1. Check Account Balance
2. Bill Payment
3. Check SMS Usage
4. Check Minutes Usage
5. Help
6. Log Out

Cancel   Send

User Account Bill Payment
Your January bill is 42$
1. Pay Bill
2. Help
3. Back
4. Log Out

Cencel   Send

Checking Balance & Paying Phone Bill/ Recharging Prepaid

Content Portal!
1. News
2. Sports
3. Weather
4. Entertainment
5. Health

Cencel   Send

Content Portal

How Often Do You Use Your Mobile Phone For Content:
1. Never
2. Once a Week
3. Once a Day
4. Several Times a Day

Cencel   Send

Conducting Polls

MORE SAMPLE USE CASES

💬 Chatting   🛒 Shopping   📊 Polling

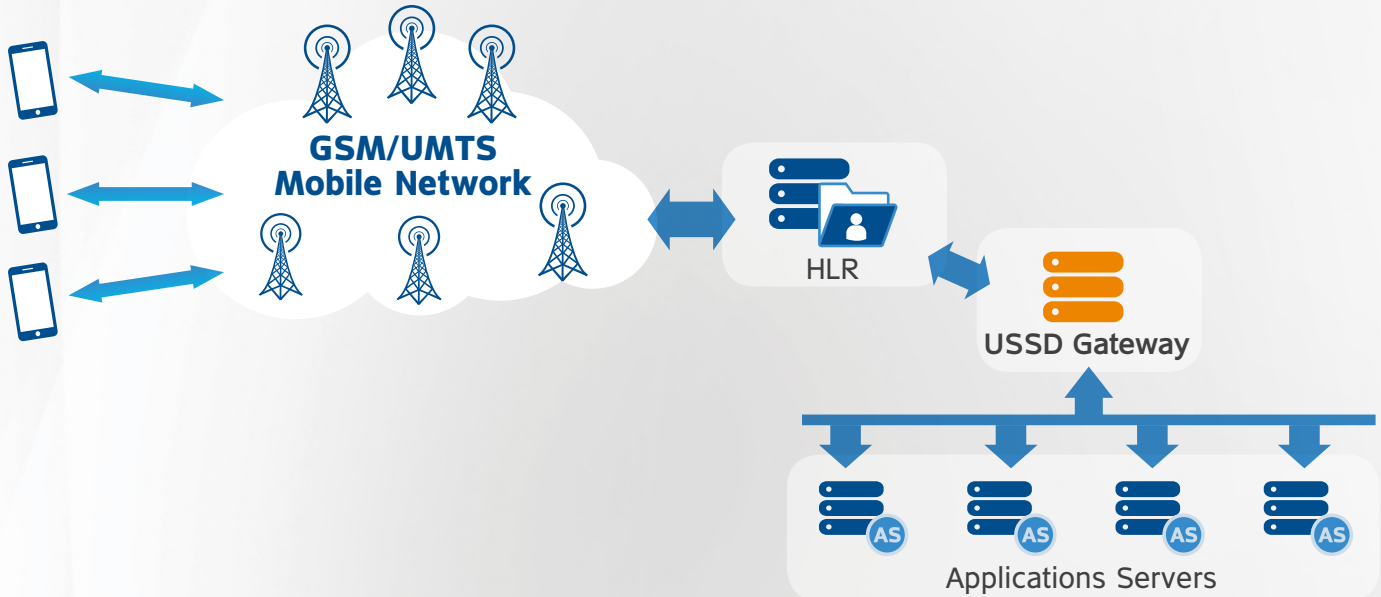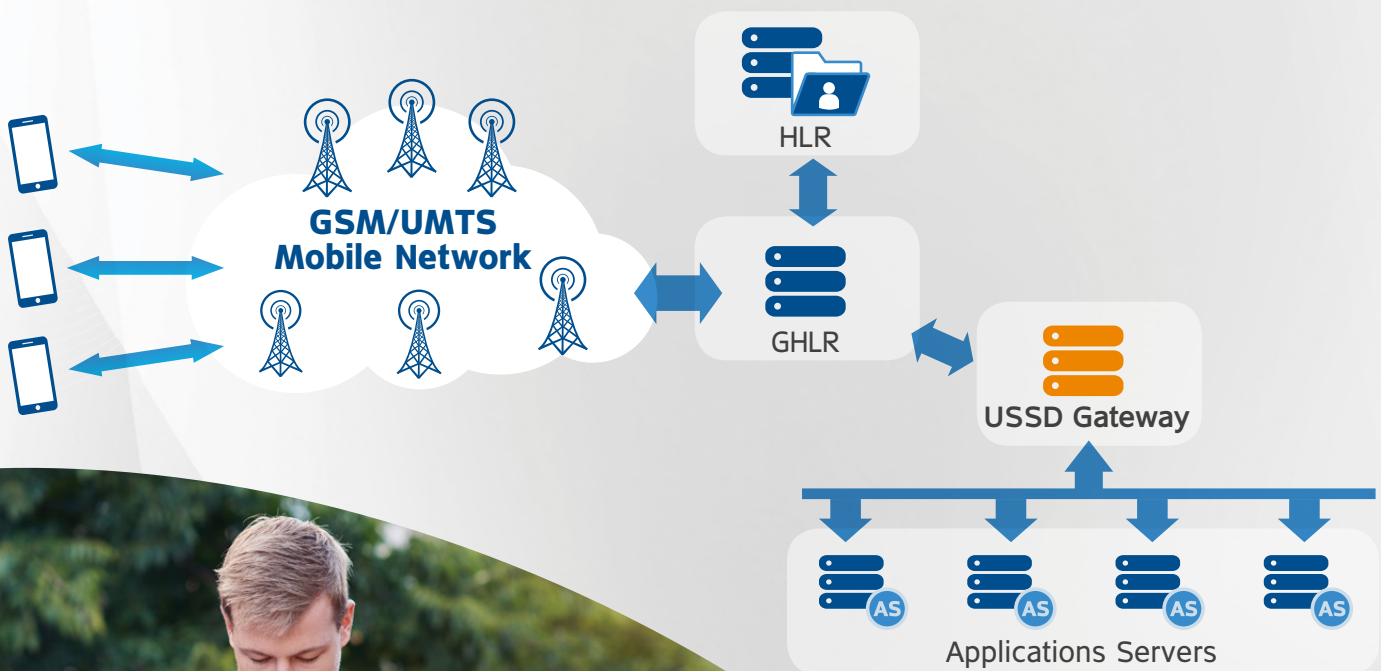⚙ Changing Device Settings   💲 Banking: Account Management

The HTTP API feature in Modulo's USSD Gateway creates infinite possibilities for new USSD-based services to be developed.

ARCHITECTURE

When the HLR can pass ussd messages to the USSD Gateway

GSM/UMTS
Mobile Network

HLR

USSD Gateway

Applications Servers

When the HLR cannot pass messages to the USSD Gateway

GSM/UMTS
Mobile Network

HLR

GHLR

USSD Gateway

Applications Servers

FUNCTIONAL SPECIFICATIONS

Host
General purpose server with Linux OS

TDM Interface
PCIe E1/T1/J1 adapter with MTP2 software

IP Interface to Local Area Network
M3UA, M2PA, M2UA over SCTP

IP Interface to Local Area Network
HTTP RESTful API
SMPP v3.4
JMS API

SS7 Links
4 to 256 LSL

SIGTRAN Associations
Up to 1024

E1 Interfaces
4 to 16 per machine

Protocols

MAP Protocol Support
GSM 09.02 (TS 100 974)
GSM 29.002

MTP Protocol Support
- ITU-T Q.700 through Q.707, Q.781, Q.782, Q.791
- ITU-T Q.703 Annex A - "Additions for a national option for high speed signaling links"
- ITU-T Q.704 - MTP Restart
- ANSI T1.111-1992 Message Transfer Part

SCCP Protocol Support
- ITU-T Q.711 through Q.714
  - Connectionless - Class 0 and 1
  - Connection-Oriented - Class 2
- ETSI ETS 300 589
- ANSI T1.112

TCAP Protocol Support
- ITU-T Q.771 through Q.774, X.680, X.690
- ETSI ETS 300 134, ETS 300 287
- ANSI T1.114

SCTP Support
- RFC2960
- RFC3309

M2PA Support
- RFC4165 (final version)
- RFC4165 (draft version 9)

M3UA Support
- RFC3332

ABOUT MODULO C.S.

Modulo Communication Systems Ltd is a Telecom Solution Center. Modulo provides customers with the best and most cost-effective modern and converged telecom solutions in the market.

Modulo specializes in mobile-network technology, including specifications such as LTE, WebRTC, IMS, and Diameter, as well as legacy protocols such as 3G/UMTS, GSM, SIP, SS7 and Analog protocols. We provide services in design, development, integration, QA, maintenance and training for standard or customized telecom solutions, based on the most competitive off-the-shelf telecom products from market-leader suppliers.

Our services vary from simple reselling to fully-customized solutions through delivery, support, solution design, integration, development, maintenance, training and more.

For more information

For more information about the product, contact our sales team at www.modulo.co.il/contact.

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