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SMS Easy Hub: Reducing SMS Delivery Costs

SMS Easy Hub: Context

- SMS traffic is carried in network's signalling channel
- Originally this was SS7….
- …. but increasingly now IP-based (smpp or Sigtran)
- Routing to the right destination is based on 'Global Title Translation' (GTT)
- Without a direct link to the right GT, traffic must go via a Transit Operator => higher charges
- SMS traffic may be P2P (Person to Person), A2P (Application to Person) or P2A

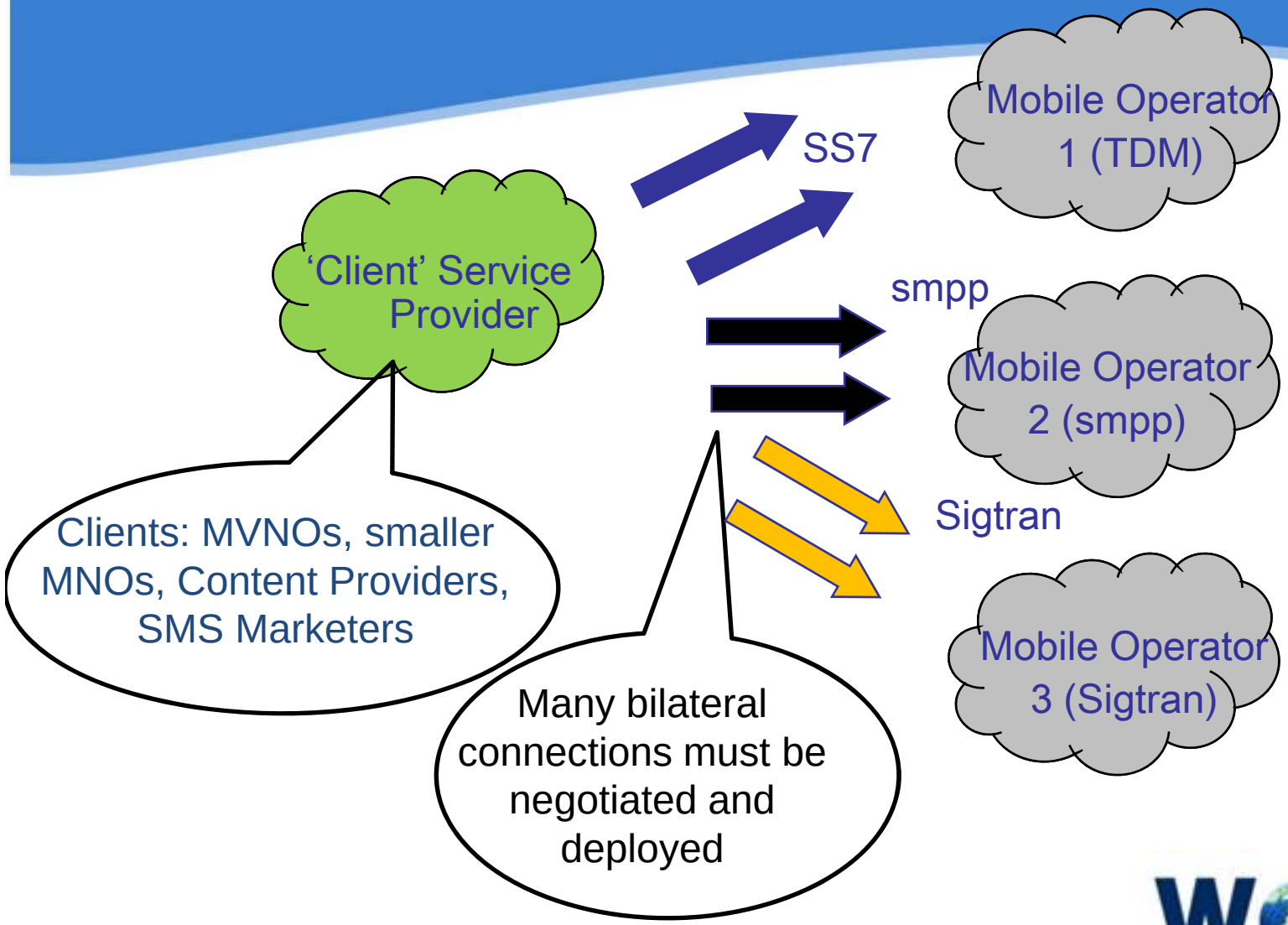
The Need for Hubbing

- Think of the number of interconnects needed to deliver SMS to every mobile network
- “Hubbing Operator” leverages existing interconnects to offer a new wholesale service
- “Connected Operator” gets better coverage without multiple bi-lateral agreements
- Using a Hub service reduces complexity & rapidly increases reach (ideal for new entrants like a MVNO)

Target Customers for Hubbing

- MNOs, Incumbents, Exchange Carriers
- Clients are not just Operators but anyone with mass SMS traffic:
  - Application providers (advertising, games…)
  - Corporates (banks, utilities)
  - Governmental (security, health, disasters)
  - NGOs

SMS Flow without Hub



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WTL SMS Easy Hub

- Any traffic mix:
  - SS7 to SS7
  - IP to IP (smpp to smpp)
  - SS7 to IP
- Scalable: 1- 254 SS7s, 1 – 1024 smpp links
- Available in single or cluster/load share mode
- Uses proven, efficient WTL signalling, switching, CDR & value-added software
- USSD gateway also opens many VAS opportunities

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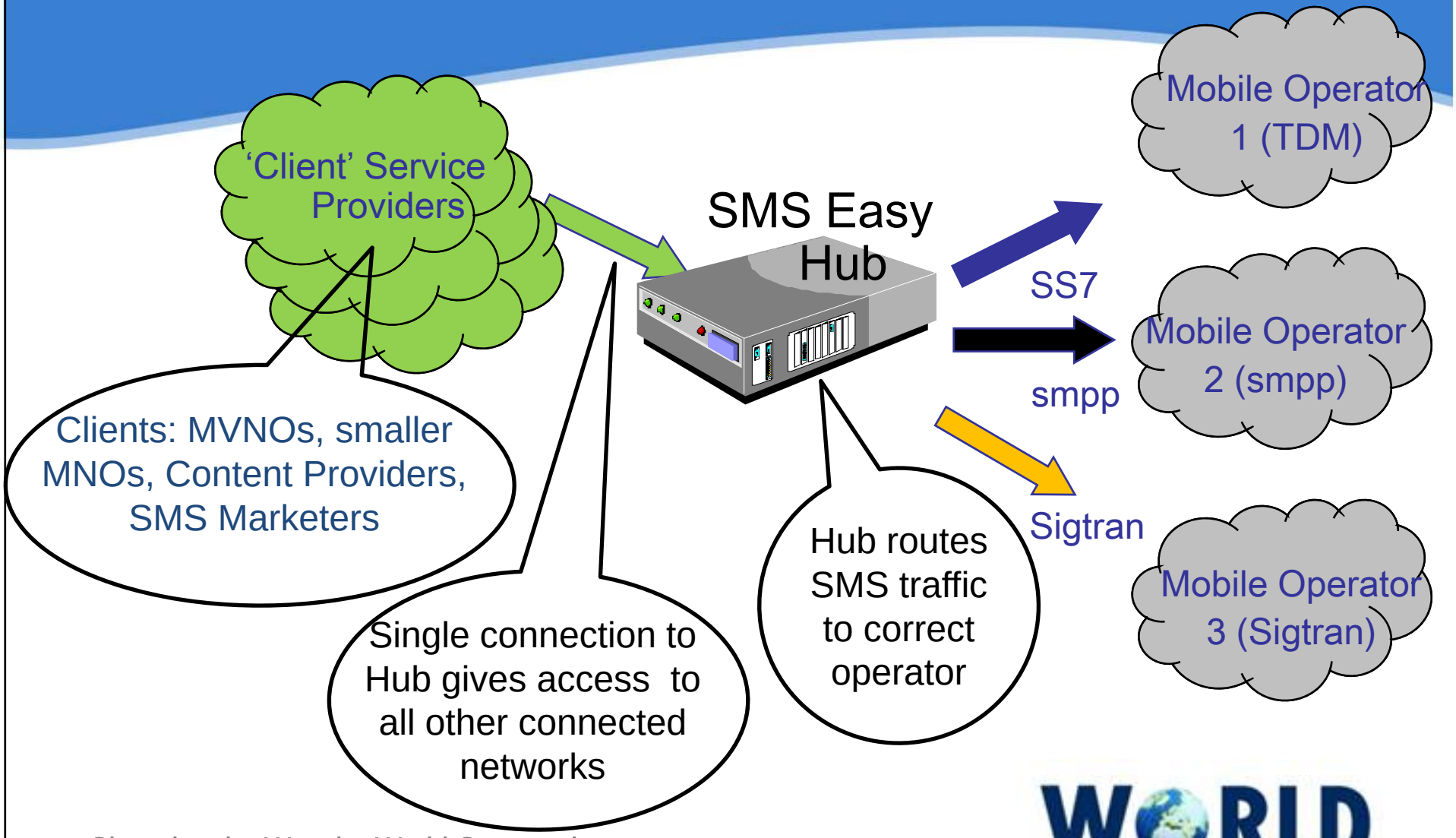
WTL SMS Easy Hub

- MNP (Mobile Number Portability) Support
- Supports transit traffic (Hub mode) and end-user traffic (SMS Gateway mode)
- Http-based API to send/receive SMS

SMS Flow with Hub



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WTL Architecture - Hardware

- 3 h/w options depending on network design
  a) SoIP Gateway – E1/SS7 or E1/SS7 + IP/smpp

     2 – 32 E1 ports

     1 – 256 smpp links, 1 – 254 M3UA/M2UA Sigtran links

  b) IPNx Controller – STM1 SS7 + IP/smpp

     1 – 32* STM1 ports, 1 – 64 E1 ports

     1 – 256 smpp links, 1 – 254 M3UA/M2UA Sigtran links

  c) SPVx or HPVx – smpp only

     1 – 256 smpp links, 1 – 254 M3UA/M2UA Sigtran links

* Requires multiple Controllers

WTL Architecture - Software

- Software required as follows:
  - Per port license as normal for E1s or STM-1s
  - Additional SS7 license per link set
  - Additional MAP license if using SS7 (1 per chassis)
  - NO license per smpp link
  - Capacity license based on Messages per day

  [Note: as SMS only uses signalling channel, it is common to concentrate multiple SS7 links on a single E1. You may need multiple SS7 licenses per E1]

WTL Architecture - Licensing

- Capacity Licenses as follows:

SMS License < 100K Messages Per Day	€ 12,500
SMS License < 250K Messages Per Day	€ 13,500
SMS License < 500K Messages Per Day	€ 15,000
SMS License < 1M Messages Per Day	€ 18,000

Note: figures are for number of inbound SMS per day

USSD Gateway Function

- A USSD Gateway routes USSD messages from signaling network to a service application and back.
- USSD is a session-based protocol. USSD messages travel over GSM signaling channels and are used to query information and trigger services.
- Unlike similar services(SMS and MMS), which are **store and forward** based, USSD establishes a real time session between mobile handset and application
- Response time for USSD request is 100 - 200ms compared to 5-10 seconds of SMS.

USSD Applications

- Because it is session-based USSD is used for many VAS:
  - Balance enquiries
  - E-Commerce
  - Phone banking
- Easy SMS Hub allows these services to be offered seamlessly via Sigtran or SS7 (IP or TDM)
- Easy SMS Hub translates between SS7 & http (unsolicited USSD dialogs not yet supported)

WTL USSD Features

- UMTS/GSM Network Support
- High Performance (Up to 4000 simultaneous dialogs)
- 254 LSL (Low Speed Links)
- Sigtran Support (100Mbit/1Gbit)
- Unlimited 64 USSD Applications (short codes defined via tables)
- O&M (Operation & Management) Web Interface
- Single or cluster/load sharing operation

WTL USSD Gateway – H/W & S/W

- Hardware & Software rules same as SMS Hub:
  - Correct E1 / STM1 hardware
  - Per port license as normal for E1s or STM-1s
  - Additional SS7 license per link set
  - Additional MAP license if using SS7 (1 per chassis)
  - Capacity license based on number of simultaneous USSD dialogs

SMS Easy Hub: Capacity & Performance

- Designed for heavy traffic:
  - 200 CPS (calls per second) per IPNx
  - BHCA 300,000 per IPNx
  - 8,000 MSUs (Message Signal Units) per sec
- Up to 32 x SS7 link sets per STM1
- Up to 96 x SS7 link sets per IPNx
- 64 DPC (Destination Point Codes)
- 4 Local Point Codes