WHITE PAPER

The Converged Services Platform for African Mobile Operators

How consolidating call completion and next-generation messaging services onto one platform reduces cost, speeds time-to-market, and unlocks new revenue

An industry perspective from TELIGENT TELECOM

Rev A · 2026

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1. Executive summary

African mobile operators are evolving quickly — from 2G and 3G voice-and-SMS franchises into 4G, 5G and digital-services businesses. Yet the value-added services layer that touches every subscriber is often left behind. On most networks the call completion services — voicemail, missed call alert, notify-me and call-back, welcome-and-roaming SMS — run on separate, ageing, single-purpose platforms, each with its own hardware, its own operations team, its own vendor, and its own integration into the network core.

Each new service the operator has wanted to add — voice broadcast, an enterprise SMS gateway, bulk SMS campaigns, an omnichannel engagement layer — has historically meant another silo: another procurement, another integration, another year. That model no longer fits the pace at which operators need to move.

This paper makes the case for the opposite approach: consolidating the entire call completion and messaging portfolio onto a single, next-generation, multi-service platform — one core, one provisioning model, one operations practice, one integration into the network — onto which new services are added as software, in weeks rather than quarters.

The commercial logic is direct. Consolidation removes duplicated cost. A shared core collapses the time-to-market for new services. Modernized call completion protects and grows ARPU on the installed base. And the same platform, turned outward, monetizes enterprise traffic — A2P messaging, voice and SMS broadcast, omnichannel campaigns — opening B2B2X revenue lines that a collection of legacy silos could never support.

What this paper covers

- Why the fragmented, one-service-per-platform model has become a liability as operators evolve.
- The specific pressures — cost discipline, network transformation, VAS competition — that make consolidation urgent for African operators now.
- The full service portfolio a modern multi-service platform delivers, from call completion to omnichannel engagement, and what each service unlocks.
- The architecture that lets one platform carry it all reliably at operator scale — and how to integrate and migrate without disrupting live services.
- A phased deployment path that protects operational continuity while building toward new revenue.

2. From service silos to a converged platform

For two decades, operators built their VAS estate one box at a time. Voicemail arrived first, then missed call alert, then call-back and reminder services, then roaming welcome messaging — each procured when its business case appeared, and each deployed as an independent system. It was a rational way to grow. It has become an expensive way to operate.

The cost of fragmentation

Every legacy silo carries a full stack of duplicated overhead: its own servers and licenses, its own high-availability design, its own patching and security posture, its own operations runbooks and on-call rota, its own reporting, and its own point of integration with the HLR/HSS, the SMSC, the charging system, and the signalling network. Multiply that across five, eight or ten services and the operator pays many times over for capabilities that could be shared once. Worse, the silos rarely share a subscriber view: the same customer exists differently in each system, provisioning is inconsistent, and a change of business rules must be made — and tested — in several places at once.

The slow path to new services

Fragmentation does not only cost money; it costs time. When every new service is a new platform, launching it means a fresh procurement cycle, new hardware, new integration testing against the core, and new operational onboarding — typically twelve to eighteen months from decision to live. In a market where subscribers and enterprise customers expect new capabilities continuously, that cadence is a competitive handicap.

> *The question is no longer which service to buy next. It is which platform can carry every service the operator will need — and add the next one as software.*

The converged alternative

A next-generation multi-service platform inverts the model. A single service-delivery core provides the shared functions every VAS needs — subscriber data, session and media handling, provisioning, charging integration, message routing, reporting, high availability — and each service runs as an application on top of it. New services reuse the core rather than rebuild it. One integration into the network serves them all. One operations team runs the estate. One subscriber record is authoritative. Consolidation is not a downgrade of capability; done correctly, it is an expansion of capability at a fraction of the cost and time.

3. Why African operators face a specific moment

Consolidation is sound engineering anywhere. For African operators, three conditions make it not merely sensible but timely.

Networks are transforming now

Operators across the continent are in the middle of a generational network transition — 4G roll-out, early 5G, IMS voice, IT and core virtualization, and a broad move toward cloud and NFV operating models. VAS platforms built for a TDM and SS7 world sit awkwardly in that future. The modernization is already funded and already under way; folding the VAS layer into it — onto a virtualized, software-defined, API-driven platform — is far cheaper as part of the transition than as a separate project later.

Cost discipline meets VAS revenue pressure

Margins are under pressure and finance functions scrutinize every OPEX line. At the same time, traditional voice and SMS revenues are being reshaped by OTT, and operators are looking to VAS and enterprise services to defend and grow ARPU. Consolidation answers both at once: it cuts the cost of running the existing services, and it provides the platform on which new revenue services are launched quickly and cheaply.

A multi-country footprint that rewards standardization

Most major African operators run group structures spanning several markets. A fragmented VAS estate multiplies across every country — different vendors, versions and integrations in each. A single, standardized multi-service platform, deployed consistently across the group, turns that sprawl into a repeatable asset: one architecture to certify, one operations model to staff, one roadmap to fund, and group-wide services — broadcast, enterprise messaging, omnichannel — that can be sold in every market at once.

THE STRATEGIC IMPLICATION

The VAS layer is no longer a set of legacy boxes to be maintained at minimum cost. Consolidated onto one modern platform, it becomes the operator's fastest and cheapest route to launch new subscriber and enterprise services — and, increasingly, the foundation on which AI-enabled voice and messaging capabilities are built.

4. One platform, many services

A modern multi-service platform carries the operator's entire call completion and messaging portfolio, and extends it with new revenue services, all on shared infrastructure. The table below summarizes the portfolio; the sections that follow expand on each.

Service	What it does	What it unlocks
Voicemail / Visual VM	Records and delivers messages when the subscriber is unreachable, with a visual inbox for playback and management.	Retained legacy revenue, subscriber reachability, and an AI-ready base for transcription and premium visual tiers.
Missed Call Alert (MCA)	Notifies subscribers of calls missed while switched off, busy, or out of coverage.	High callback conversion and strong prepaid ARPU, especially in prepaid-heavy markets.
Notify Me / Call-back	Alerts a caller when an unreachable party becomes available, and offers automated call-back.	Higher call completion, reduced revenue leakage, and a better caller experience.
Welcome & Roaming SMS	Delivers localized welcome, tariff, and service information to inbound and outbound roamers.	Roaming ARPU, regulatory compliance, and subscriber reassurance abroad.
Voice Broadcast	Delivers personalized, multi-language voice messages to large subscriber or enterprise lists.	Marketing, public-safety, government and enterprise campaigns — a new B2B revenue line.
SMS Gateway (A2P/P2A)	A single enterprise messaging hub for application traffic, with routing, throttling, firewall and per-message charging.	Monetized A2P termination, direct enterprise and aggregator onboarding, and grey-route control.
SMS Broadcast	A bulk campaign engine with segmentation, scheduling, throttling and delivery reporting.	High-margin enterprise and internal campaigns under one campaign model with voice.
Omnichannel Engagement	Orchestrates voice, SMS, USSD, RCS, WhatsApp and push from one subscriber context and campaign definition.	Consistent CX, higher conversion, and a differentiated B2B2X product for enterprises.

Call completion: the retained core

Voicemail and visual voicemail keep subscribers reachable and preserve a service the base already values; a visual inbox modernizes the experience and provides the natural entry point for transcription and other AI features later. Missed call alert remains one of the highest-engagement services in prepaid-heavy markets, converting missed calls into callbacks and directly into ARPU. Notify-me and automated call-back raise completion rates and reduce revenue leakage. Welcome-and-roaming SMS delivers localized information to roamers, supporting both roaming ARPU and regulatory obligations. These are services

subscribers already use every day — consolidating them first delivers immediate cost savings and proves the new platform at scale before new services are layered on.

Voice broadcast

Personalized, multi-language outbound voice campaigns — for marketing, service notifications, public-safety alerts, government communication and enterprise messaging — reuse the same media and delivery core that powers voicemail and IVR. What once required a separate platform becomes an application on the converged core, and a new B2B revenue line the operator can sell into banking, retail, utilities and the public sector.

SMS gateway (A2P / P2A)

An enterprise messaging hub terminates and originates application traffic with routing, throttling, sender-ID management, an SMS firewall against grey routes, and per-message charging. It converts A2P traffic that would otherwise leak through unofficial routes into monetized, controlled termination, and lets the operator onboard banks, aggregators and enterprises directly — capturing margin that today often flows around the network rather than through it.

SMS broadcast

A bulk campaign engine adds segmentation, scheduling, throttling and delivery reporting for high-volume messaging. Sharing the same campaign model as voice broadcast, it supports enterprise and internal campaigns as a high-margin B2B service with negligible incremental infrastructure.

Omnichannel engagement

The most forward-looking service orchestrates voice, SMS, USSD, RCS, WhatsApp and push from one subscriber context and one campaign definition. Instead of running each channel as a separate tool, the operator delivers a consistent experience across all of them — raising conversion and creating a differentiated B2B2X engagement product that enterprises cannot easily build for themselves.

5. Architecture of a next-generation multi-service platform

Carrying this many services on one platform, reliably, at operator scale, raises architectural questions that deserve direct answers. Three matter most, and a fourth — migration — determines whether the transition is safe.

A shared service-delivery core

At the centre is a common core that every service reuses: a unified subscriber and profile store; session and media processing for voice, announcements and text-to-speech; a message routing and delivery engine (SMPP to the SMSC, SIP and IMS for voice, signalling over SS7 and SIGTRAN using MAP); a provisioning layer; a charging integration providing real-time control via CAMEL and Diameter to the prepaid IN and OCS, plus CDR generation for postpaid and settlement; and a single reporting and analytics plane. Adding a service means deploying an application against this core, not building a new stack beside it.

Integration into the operator network

The platform integrates once, cleanly, with the existing network: HLR and HSS for subscriber state and triggering, MSC/MSS and IMS for call handling, the SMSC for messaging, the charging system for real-time and offline billing, and provisioning, OSS and BSS for lifecycle management. A single, well-defined integration surface — rather than one per legacy silo — reduces certification effort, simplifies change management, and shrinks the security attack surface.

Deployment, availability, and evolution

The platform is virtualized and cloud-ready — deployable on the operator's private cloud or NFV infrastructure, or on-premise where data-residency or policy requires it — and designed for carrier-grade availability. A geographically redundant, active-active, dual-site configuration supports availability targets up to 99.9999%, with automatic failover and no single point of failure. Open REST APIs expose services to enterprise self-service portals and CPaaS use cases, and position the platform as an AI-ready foundation for the voice and messaging intelligence layer described in our companion white paper.

Migrating without disruption

Consolidation must never put live services at risk. The platform runs in coexistence with the legacy estate throughout the transition: subscribers and traffic are migrated service-by-service and market-by-market, parity is validated in production before each cutover, and rollback is available at every step. Legacy platforms are retired only once the new platform has proven equivalence under live load.

The goal is a migration the subscriber never notices — and the finance team measures for years.

6. From consolidation to business outcomes

Architecture is the means; outcomes are the point. Consolidation onto a multi-service platform maps to four outcomes that operator commercial and technical leaders can measure and report.

Outcome 1: lower total cost of ownership

Retiring multiple single-purpose platforms onto one shared core removes duplicated hardware, licenses and maintenance contracts — and, often the largest line, the operational effort of running many systems. Operators consolidating a fragmented VAS estate typically target total-cost-of-ownership reductions of thirty to fifty per cent, with a single operations practice replacing several.

Outcome 2: faster time-to-market

Because new services reuse the core, launching one becomes a software activity measured in weeks rather than a procurement-and-integration project measured in quarters. The operator can respond to a market or enterprise opportunity while it is still an opportunity.

Outcome 3: protected and grown ARPU

Modernized call completion — visual voicemail, high-conversion MCA, notify-me and roaming welcome — retains and lifts revenue on the installed base, while premium tiers and new subscriber features attach on top of services the operator already owns.

Outcome 4: new enterprise revenue

The same platform, turned outward, opens B2B2X lines that silos could not support: monetized A2P messaging through the SMS gateway; voice and SMS broadcast sold to banks, retailers, utilities and government; and omnichannel engagement products for enterprises. The operator monetizes one platform twice — once for its subscribers, once for its enterprise customers.

OUTCOMES SUMMARY

Cost: consolidating a fragmented VAS estate onto one platform typically targets a 30–50% TCO reduction.

Time-to-market: new services launch in weeks by reusing a shared core, rather than as 12–18 month platform projects.

ARPU: modernized call completion — voicemail, MCA, notify-me, roaming — protects and grows revenue on the installed base.

Availability: active-active geographic redundancy supports up to 99.9999% platform availability.

New revenue: A2P messaging, voice and SMS broadcast, and omnichannel engagement open B2B2X revenue within 12–24 months.

7. A phased path to migration and integration

Operator scale rewards caution. Consolidating an entire VAS estate in a single cutover is a recipe for outages and political fallout. A phased path protects the live platform while building toward new revenue, and treats each stage as a gate that must be passed on proof.

Phase 1: consolidate the call completion core

Deploy the new platform alongside the legacy estate and migrate the foundational call completion services — voicemail, missed call alert, notify-me and roaming welcome — first. Validate parity, high availability and charging in production, then retire the corresponding legacy platforms. This phase delivers immediate cost savings and establishes the platform at scale.

Phase 2: add revenue-adjacent services

With the core proven and provisioning unified, add voice broadcast and SMS broadcast. These reuse the media, messaging and campaign functions already in place, introducing the first outbound campaign revenue at minimal incremental cost.

Phase 3: stand up the enterprise messaging hub

Deploy the SMS gateway as the operator's A2P and P2A hub — routing, firewall, sender-ID management and monetization — and onboard the first enterprise and aggregator customers. This is where consolidated infrastructure begins to generate materially new B2B revenue.

Phase 4: launch omnichannel and open the platform

Activate omnichannel engagement across voice, SMS, USSD, RCS, WhatsApp and push, and expose open APIs for enterprise self-service and CPaaS. Position the platform as the operator's VAS and enterprise-services growth engine — and as the AI-ready foundation for the next wave of voice and messaging intelligence.

Each phase is a gate: the platform proceeds on proof, not on faith — consolidating cost, launching revenue, and never taking the live services down to do it.

8. About TELIGENT TELECOM

TELIGENT TELECOM is a long-established provider of voice messaging and intelligent voice services to mobile operators across Africa and the Middle East. Our multi-service platform consolidates the operator's call completion portfolio — voicemail, missed call alert, notify-me and call-back, and welcome-and-roaming SMS — and extends it with voice broadcast, an enterprise SMS gateway, SMS broadcast, and omnichannel engagement, all on one carrier-grade, cloud-ready core.

We design consolidation and migration programmes that protect operational continuity, integrate cleanly and once into the operator network, and open new B2B2X revenue lines. The platform is engineered for high availability with active-active geographic redundancy, and is built as an AI-ready foundation for the voice and messaging intelligence capabilities that will define the next generation of subscriber and enterprise services.

Our model is partnership, not pure platform provision. We share risk on delivery, we share upside on the new revenue lines our technology enables, and we treat operator and subscriber data as the operator's own.

9. Next steps

If the ideas in this paper resonate, the practical next step is a focused conversation. We typically begin with a confidential assessment of the operator's current VAS estate — the platforms in place, their cost and integration footprint, and the services most in need of modernization — and identify the consolidation and migration sequence that delivers savings first and new revenue next. From that assessment we co-design a phased plan with defined KPIs and a clear commercial structure.

How to engage with us

- Request a confidential assessment of your current VAS estate and a consolidation business case.
- Schedule an architecture and migration workshop with your VAS, core-network and IT teams.
- Discuss a phased pilot that consolidates call completion first, with a clear roadmap to new services.

C O N T A C T

To start the conversation, contact our team at the address below. We will respond within two working days to schedule an initial discussion.

Email: info@teligent.se
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