Current Analysis

ZTE - IP Services Infrastructure

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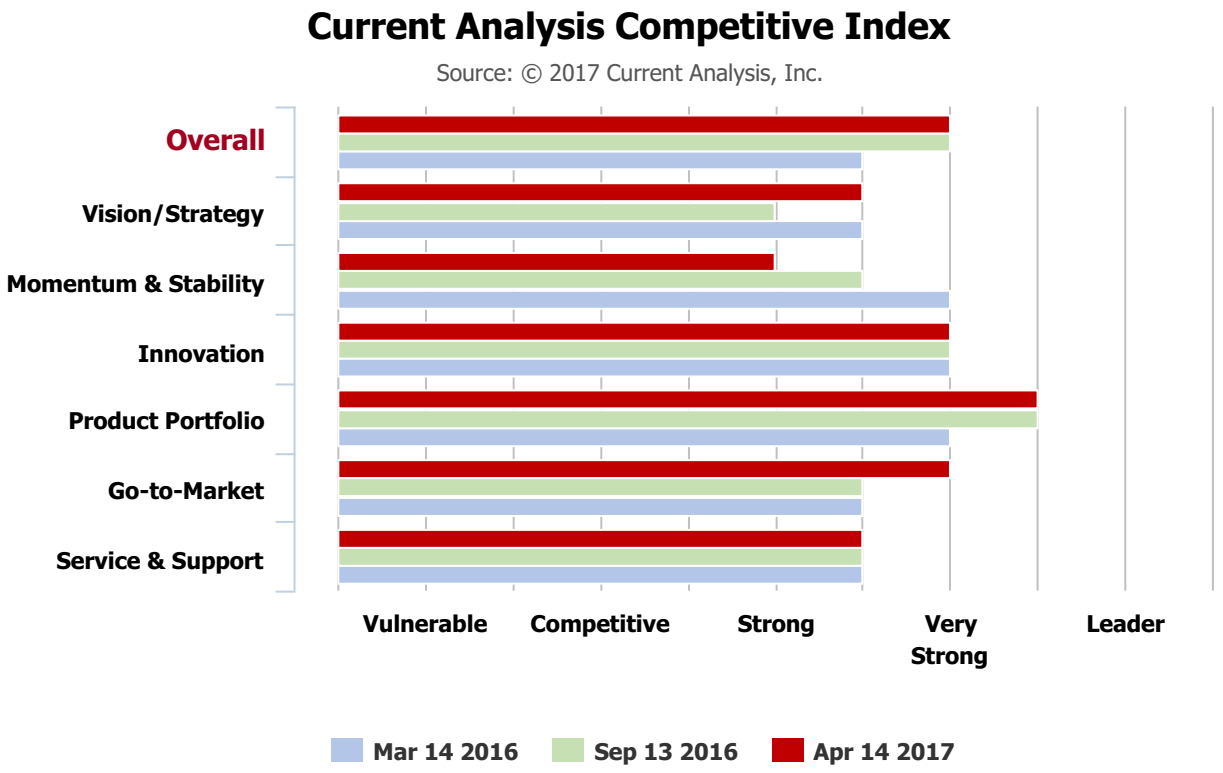
Company Assessment

What's New

• *February 2017:* ZTE launched its Public Cloud Rich Communication Services (RCS) solution to help operators rapidly deploy cloud-based RCS at low cost and stimulate user adoption.
• *January 2017:* ZTE migrated the legacy core network (including HLR/HSS, EPC, MSC and PCRF) of Velcom, a subsidiary of Telekom Austria Group, to its virtualized Cloud UniCore solution on OpenStack based NFV and standard hardware.
• *January 2017:* ZTE announced an agreement with Telefónica to jointly build a large scale virtual IP multimedia subsystem network in Latin America to cover seven countries and is the first step in the carrier's UNICA virtualization program.

Current Analysis Competitive Index



Rating Update Summary

VERY STRONG

ZTE's product portfolio is one of the broadest in the industry, with carrier class virtualization capabilities extending to the public cloud. But 5G requires increased investment and an only marginal sales increase in 2016 may not suffice.

Perspective - Essential Analysis

Strengths

• **Broad Product Portfolio:** ZTE equals or surpasses most major vendors in terms of IMS-based products and applications, and has earned a reputation for fielding cost-effective solutions suitable for global operators in developing countries.

• **Core Network Virtualization:** ZTE was moving strongly in core network virtualization well before the advent of NFV, and demonstrates carrier-class and

Limitations

• **Domestic Vulnerability:** ZTE's high reliance on the three large Chinese operators for net profit leaves it vulnerable to a domestic downturn which may not be offset by increasing traction in lower margin overseas markets.

• **Reputational Damage:** The tarnishing of its brand following sales to Iran and the resultant fine has meant that ZTE is less able to fund overseas expansion and take advantage of

high capacity deployments in private and public clouds on the road to 5G.

• **Increasing Sales Footprint:** ZTE has ample opportunity to pull through high product volume as Chinese operators introduce Voice-over-LTE (VoLTE), RCS and the Internet of Things (IoT) at scale and it targets global operators in developing countries.

Ericsson’s and Nokia’s slowdowns.

• **Marketing Mismatches:** ZTE's marketing communications, while steadily improving, remain inconsistent and fail to do justice to the quality of its internal innovation and products.

Category Ratings and Justification

Vision/Strategy

Rating: Strong

• ZTE's overall vision, Mobile-ICT (M-ICT), was refreshed in 2016 to M-ICT 2.0, identifying five key trends under the ‘V.O.I.C.E.’ acronym (Virtuality, Openness, Intelligence, Cloudification and Internet of Everything).

• ZTE has been an IMS pioneer, with strong standards contributions and early feature implementations. More than most of its peers, ZTE has embraced the multi-access IMS vision and developed sophisticated multi-tenancy capabilities.

• The company's 'ElasticNet' NFV architectural vision is comprehensive, spanning all network domains including the core, management and network orchestration (MANO) and operational support systems (OSS); the company is making evolution to 5G the basis of its future core strategy.

Momentum & Stability

Rating: Strong

• ZTE reported a net loss of CNY2.36 billion ($343 million) based on a provision of $892 million for a US trade sanctions violation fine without which ZTE would have posted a net profit increase of 19.2% YoY. Specific IP services infrastructure (IPSI) product momentum is not broken out as part of its wider carrier business.

• The company holds a significant share of the IMS/VoLTE market in China, essentially splitting the market opportunity with Huawei, and has large stakes in China Telecom, China Mobile, and China Unicom.

• With about half of global revenue coming from China, ZTE is reliant on its domestic market, although in H2 2016, ZTE reported an uptick in overseas vIMS contracts including Telefonica, Bharti, Telecom Austria, UMobile, and Viettel.

Innovation

Rating: Very Strong

Product Portfolio

Rating: Very Strong

• ZTE has long been known for a high R&D investment/revenue ratio and has often been among the first to demonstrate 3GPP standards-based functionality. ZTE has 18 R&D centers and employs over 30,000 research professionals.

• ZTE was moving strongly along a virtualized network infrastructure path well before the advent of NFV. Its R&D program includes working with multiple open source software groups such as OPNFV, OpenDaylight, ONAP/Open-O, OSM, and OpenStack.

• ZTE reports investing over 1 billion yuan per year into 5G research and development to support its Mobile-ICT (M-ICT) vision and sees this investment as crucial to its competitive and future success.

• ZTE offers an extensive end-to-end portfolio of core network products. The company's suite of control- and bearer-handling functions includes fully virtualized SDP, IMS, SDM, MRF, PCRF, DSC, and SBC offerings.

• ZTE’s virtual network functions (VNFs) are already beyond the “virtualization” stage and in the “reconstruction and orchestration” stage, becoming cloud-native and ready for deployment as 5G network functions (5GFs).

• ZTE's IPSI products range from "Competitive" to "Very Strong" ratings in *GlobalData* product and market assessments. Some ZTE products, such as its SBC, are recognized more as integral parts of its wider solutions than as standalone offerings.

Go-to-Market

Rating: Very Strong

• ZTE works in close cooperation with carriers in China to capitalize on opportunities for equipment investment. The company's financial recovery has been largely predicated on addressing the needs of the three incumbents.

• Internationally, ZTE's strategy remains to focus on populous nations and mainstream carriers. It also strives for partnerships with global carriers and works with operators across 140 countries.

• ZTE is actively responding to China’s 2013 “One Belt and One Road” (OBOR) initiative, by promoting advanced network technologies and solutions for all global major telecom operators across Central Asia, Eastern Europe and North

Service & Support

Rating: Strong

• ZTE has seven global logistics centers, 15 global training centers, eight regional customer centers, 45 local customer centers and more than 3,000 local contracted partners.

• ZTE does not report the amount of revenue it earns from services connected with its carrier network infrastructure business, making it difficult to compare this aspect of its business with peers.

• The services business includes a corporate unit devoted to providing customer financing - a service especially relevant to smaller operators that currently make up much of ZTE's international customer base.

Africa.

Segment Ratings

Market	Perspective
IP Services Infrastructure	Strong
IMS	Strong
Network SDP	Strong

Threats and Barriers

• **Security Concerns Remain:** The lucrative U.S. carrier market remains barred to ZTE, although ZTE’s management turnover, admission of failure regarding illegal exports and internal compliance system improvements are improving sentiment.

• **The China Syndrome:** International business will suffer if ZTE's requirements capture appears solely driven by the needs of its domestic market, particularly if solely framed by large carrier features and scale.

• **More Than One is a Crowd:** Fierce competition with Huawei could destroy ZTE’s business value, particularly internationally, where carriers are unlikely to select more than one Chinese vendor per contract.

• **New Nokia Threatens:** The combined entity formed by Nokia's acquisition of Alcatel-Lucent presents ZTE with a more formidable competitor with far greater global scale including localized presence in China and a commanding position in India.

• **Keeping the 5G R&D Engine Running:** The mismatch between the increased levels of investment required for 5G and the lower YoY sales increase in 2016 may impact ZTE’s annual 5G R&D investment target.

Recommended Actions

Vendor

• **Avoid 'Me-Too' Impressions:** Having dispelled its image as the 'other' Chinese equipment vendor, ZTE needs to maintain this stance; ZTE’s 'V.O.I.C.E.' bears a striking resemblance to Huawei 'R.O.A.DS.'

• **Improve Virtualized Network Marketing:** As the core network becomes more integrated with management, ZTE should strive for a more holistic approach to marketing and continue to increase the quality of marketing material.

• **Highlight NFV Smarts:** ZTE should communicate more of its hidden NFV capabilities such as carrier class core network public cloud operation, NFV MANO portfolio breadth

and interoperability.

Competitors

• **Monitor ZTE Technical Development:** All competitors should monitor ZTE's accelerating progress in network virtualization, NFV MANO and network slicing.

• **Highlight More Multivendor VNF Wins:** Huawei and Ericsson should publicize more multivendor VNF wins, rather than full-stack single-vendor successes.

• **Nokia in China:** Nokia should use its Chinese JV to gain local buy-in for its 5G core network architecture and start to undermine ZTE's domestic incumbency.

Buyers

• **Increasing Cloud and 5G Credentials:** Operators should benchmark all cloud network core and 5G evolution solutions against ZTE’s rapidly expanding offering.

• **Overlook Poor Marketing:** Carriers should try to evaluate ZTE's offerings on the basis of innovation and technology, rather than ZTE’s marketing prowess.

• **Beware Domestic/Overseas Differences:** Operators should be aware that ZTE’s overseas market products may be less feature-rich than domestic equivalents.

Company Details

Employees	~69,000
HQ	Corporate headquarters in Shenzhen, China
Market strengths/solutions	IMS, SDP, SBC, MRF, application servers, media gateways, softswitching, policy management, DSC, subscriber data management, NFV MANO
Key ecosystem partners	IBM, Oracle, GENBAND, Allot, Radisys

This report is tagged to the following vendor(s):

ZTE

This report is tagged to the following content areas:

Service: Service Provider Infrastructure
Market: IP Services Infrastructure

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