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# Communications Service Providers and Sybase



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Today, Sybase serves hundreds of communications service providers of all types in North America, Europe, Asia, and Africa. These providers depend on powerful Sybase technologies to answer questions that were previously impractical or impossible, and deliver the business-critical information they use to ensure efficient network utilization, customer satisfaction, and service reliability.

- More than 250 operators are using Sybase technologies today to dramatically reduce the “time to answer” for complex network optimization problems such as traffic engineering, capacity planning and routing, reducing operating expenses and avoiding unnecessary capital expenditures.
- Communications service providers (CSPs) rely on Sybase technologies to reduce churn and increase revenues by answering customer assurance questions, making Business Support Systems (BSS) and Operations Support Systems (OSS) data available to CSRs. Because queries that used to take hours now take less than a minute, they increase first-call resolutions and reduce customer care costs.
- Wireless and wireline service providers, MVNOs and cable operators are using Sybase solutions to increase ARPU by identifying their most profitable customers, segmented by their behavior and network usage, and making the right up-sell and cross-sell offers at the right time. They also compare network usage and service offering data to identify profitable gaps in their tiered offerings, and grow revenues and market share.
- The Sybase suite of mobile operator solutions powers messaging and management offerings from many of the biggest names in telecommunications.

What has kept communications service providers from asking and answering these business-critical questions? In each of these cases, the problem isn't that the operators don't have the data. In fact, it's just the opposite: telecommunications, Internet and entertainment providers produce vast volumes of data every day. The problem is getting this data to the people who need it, when they need it.

Very few industries need to handle the volumes of data in the timeframes needed by telecommunications operators, and the solutions that work in other markets haven't been sufficient to meet the problems CSPs face. Until Sybase.

Sybase is recognized globally as a performance leader, proven in the most data-intensive industries—including telecommunications—and across all major systems, networks, and devices. The following pages will highlight some of the ways CSPs are increasing their competitiveness and profitability, network utilization, customer satisfaction, and service reliability today by using Sybase products and technologies to answer previously impossible questions, without disrupting their existing infrastructure.



... according to Yankee Group, the typical telecommunications network runs at about 30% of capacity...

## **NETWORK OPTIMIZATION – CONTROLLING NETWORK EXPENSE**

Communications service provider profits are squeezed between flat-fee “unlimited use” service plans on the revenue side, and escalating network build out and operations costs in the face of expanding bandwidth required by 3G, SMS, social networks, video, and other emerging technologies and applications. With operating expenditures typically running 45-50% of revenues, and network operations accounting for 45% of OPEX, this is a clear bottom-line priority.

Yet according to Yankee Group, the typical telecommunications network runs at about 30% of capacity, and limited visibility into network usage and routing data prevents operators from improving utilization. The data is there, but in such massive quantities that current systems can’t deliver timely analysis with adequate granularity. Operators are forced to be reactive, instead of proactive; tactical, rather than strategic.

By shrinking the “time to answer” for problems such as traffic engineering, capacity planning and routing optimization, Sybase real-time analytics solutions enable more efficient use of current network resources and reduce network-related operating and capital expense for hundreds of CSPs today.

### **Traffic Engineering**

Optimizing network utilization through traffic engineering is essential to minimize network build-out capital expenditures and control the operating expenses required to meet demand with current network capacity. Sybase delivers the only real-time analytics solution capable of analyzing the tens of terabytes of real-time and historical data needed to proactively identify traffic surges, route latency-dependent application packets cost-effectively, and proactively adjust routing rules when conditions change.

Today, over 250 communications providers are using Sybase analytics embedded in their networks to capture and analyze network performance data, log files, switch data and CDRs and SS7 signaling data, and provide end-to-end visibility of complex, multi-vendor, multi-country network performance. With Sybase’s high-performance real-time analytics, these operators analyze vast amounts of data up to 100 times faster than before. Combined with automatic alerts, Sybase analytics solutions turn network data into business and service awareness, enabling CSPs to maximize network utilization, proactively identify and correct exception conditions, and reduce network-related operating and capital expense.

Tier 1, Tier 2 and Tier 3 wireline, cellular and data network operators around the world make informed traffic engineering decisions because Sybase real-time analytics reduces the lag-time between network events and availability for analysis and increase granularity, and still cuts complex query time from hours to minutes — or even seconds.

### **Network Capacity Planning**

With limited visibility into network traffic patterns, operators lack confidence in traffic forecasts, and must choose between over-building (incurring unnecessary CAPEX) or under-building and facing increased OPEX as they struggle to meet demand with inadequate network capacity. With Sybase’s real-time event detection, efficient column-based database and data compression, operators can store more historical data with finer granularity, and analyze this data the instant a material event happens. Sybase’s in-database predictive analytics let network planners build more models faster, leading to more accurate network planning and reduced CAPEX.



Leading providers of wireless, wireline, and data telecommunication services in North America, Asia, Europe and Africa use Sybase analytics to forecast network usage trends for more reliable network planning. They are able to store four to five times as much data for online access, with finer granularity, and still reduce query times from hours to minutes or even seconds. By running more models against terabytes of better data, these CSPs are able to develop much more accurate forecasts, locate cell towers more efficiently, and reduce network build out costs by as much as 50%.

... churn is at an all-time high, and many CSPs find it difficult to identify their most profitable customers — and impossible to proactively offer solutions before service issues become lost customers...

#### **Partner Routing**

Communications service providers must routinely route calls across partner networks. Ensuring the most cost-effective routing requires comparing network traffic to business agreements (SLAs). After the fact, this data can be used for billing validation, to ensure that bills from other operators are accurate, and that all services provided to other operators are billed and paid.

Sybase real-time analytics provides the ability to rapidly analyze message routing information to model the most effective routes, minimize operating expense, and maximize profitability.

#### **CUSTOMER ASSURANCE – OPTIMIZING CUSTOMER VALUE**

In the saturated communications markets of North America and Europe, every new customer win is a customer taken from another provider. To grow revenues, CSPs must increase ARPU, rather than rely on new customer acquisition. Yet churn is at an all-time high, and many CSPs find it difficult to identify their most profitable customers — and impossible to proactively offer solutions before service issues become lost customers.

The data is there, in customer records and network usage data. With timely analysis, CSPs can develop targeted offers, up-sells and cross-sells based on a specific customer's usage patterns. With access to this information, CSPs can increase first-call resolutions — or even identify and resolve problems before a customer calls. Service providers can identify churn patterns and develop proactive offers. Only current technology limitations have kept CSPs from identifying a problem and offering a solution during that critical first call.

Sybase real-time analytics delivers the rapid response time and detailed analysis needed to fit problem resolution and up-sell or cross-sell suggestions within a single customer service call. Today, Sybase customers are integrating these various data sources in real time. With time to answer reduced from hours to seconds, Sybase customers achieve more first-call resolutions — and fewer truck rolls.



... it costs five times as much to acquire a new customer as to keep an existing one — and in today's ultra-competitive market, there's a good chance that multiple competitors are spending that money, with *your* customers in their cross hairs...

The world's leading mobile telecommunications company relies on Sybase analytics to predict customer activity to generate increased revenue. A leading regional mobile operator counts on Sybase technologies to analyze billions of transactions and identify gaps in service offerings, to provide more profitable service options to customers. And one of the largest cable and broadband providers in the United States depends on Sybase solutions to give its field service personnel the information they need to reduce time to repair, saving \$500,000 annually.

#### **Customer Care**

Converged service offerings and increased network complexity make service problems more difficult to isolate, but customers expect their problem to be fixed during the first call. Sybase real-time analytics makes network, handset, and billing data available in minutes, with rapid query response so that customer service representatives can identify and correct problems while the customer is still on the phone. And Sybase's predictive analytics capabilities can identify developing problems before they become customer issues, enabling proactive correction via upgrade or up-sell, and turning potential churn into increased ARPU.

Today, a leading national network operator providing mobile, fixed-network, cable TV, and digital entertainment services makes network data available to its CSRs in less than a minute, enabling problem identification and first-call resolution and reducing truck rolls, additional calls, and associated operating expenses.

A US provider of digital cable, high speed Internet and home phone services relies on Sybase real-time analytics to make data from multiple vendor-supplied billing systems available to CSRs. A global telecommunications provider offering fixed and mobile telephone services, Internet and television services, uses Sybase real-time analytics to unify data from a variety of systems; CSRs are now able to analyze business information in minutes instead of hours, increasing first-call resolutions and reducing OPEX.

#### **Customer Profiling and Segmentation**

In a saturated market where every new customer win is another CSP's loss, identifying and retaining your most profitable customers is critical. Customer profitability analysis is part of the solution. Behavioral analysis that identifies the most profitable tiered products, SLAs, and tariffs, is also essential. Sybase analytics give you the ability to use powerful predictive analytics against multi-terabyte databases combining customer, billing and network usage data, to identify the most profitable up-sell and cross-sell opportunities and increase ARPU/AMPU while keeping these valuable customers in the fold.

The world's leading mobile telecommunications company analyzes and predicts customer behavior with Sybase analytics solutions, driving new product introductions that enhance revenue and grow market share. Several leading national providers of mobile and fixed telephone services use Sybase analytics to identify service gaps and offer additional services to customers, and to identify the best levels for strict, profitable SLAs.

### **Churn Management/Retention Analysis**

Predicting churn and taking proactive remedial action is a key strategy in today's saturated telecommunications market. It costs five times as much to acquire a new customer as to keep an existing one — and in today's ultra-competitive market, there's a good chance that multiple competitors are spending that money, with your customers in their cross hairs. The provider who targets the customer at their most vulnerable point will win the contract. You have the best data — but can you analyze it effectively, in time?

With Sybase real-time analytics, you can run complex predictive models against extremely large, multi-service databases with rapid "time to answer". You can use low-level network usage patterns to identify budding customer satisfaction issues, across multiple services, and spot sources of dissatisfaction for key customers who look happy by conventional KPIs. You can even use social networking analysis to identify how many customers you will actually lose if one key customer leaves.

A leading national cellular operator does just that, using Sybase analytics for social network analysis of customer and network usage data, to reduce churn by providing proactive solutions for their most valuable customers.

### **SERVICE ASSURANCE – MAXIMIZING REVENUES AND PROFITS**

Service Assurance is not just about customer satisfaction and loyalty: with increasingly strict SLAs, the inability to provide consistent QoS and to make informed decisions about traffic routing across partner networks can severely impact profitability. And the increase in video services, where latency is a major concern, and even a single lost packet can trigger service degradation, further complicates this problem.

By enabling active monitoring of network QoS data and real-time integration with enterprise customer SLA data, Sybase real-time analytics gives CSPs an informed basis for SLA negotiation and the ability to proactively identify QoS/QoE problems and resolve them cost-effectively. Threshold-based alerts for enterprise SLA parameters like latency, throughput, jitter, packet loss, response, availability, etc., notify operators when a potential problem should be investigated, and Sybase real-time analytic's fast time to answer enables resolution within SLA requirements.

Over 250 CSPs of all sizes worldwide use Sybase analytics solutions in the network today to proactively identify and resolve potential problems, and maintain contractual QoS parameters. A market-leading voice and data company counts on Sybase real-time analytics to monitor network traffic in real time, identify traffic surges, and make appropriate traffic management adjustments to meet stringent SLAs. And a leading North American CSP depends on Sybase analytics to predict traffic surges at the individual tower level, and make adjustments to maintain service reliability.

...a leading national provider of fixed and wireless services uses Sybase IQ to analyze interconnect billing data in minutes that previously took days...

### Revenue Assurance

Operators need to know that every device that is carrying traffic is also recording usage for billing purposes. Yankee Group estimates that CSPs will lose \$2 billion over the next two years due to device reporting failures.

With Sybase real-time analytics, you can perform a gap analysis on usage reported in multiple terabytes of signaling and switching/mediation records, identifying problems and providing more accurate bills to your interconnect settlement partners.

Hundreds of CSPs are using Sybase real-time analytics throughout the world to capture and analyze network data to ensure accurate billing information. Leading national wireline, wireless and data providers count on Sybase analytics to analyze data for revenue assurance purposes.

### Product and Tariff Development

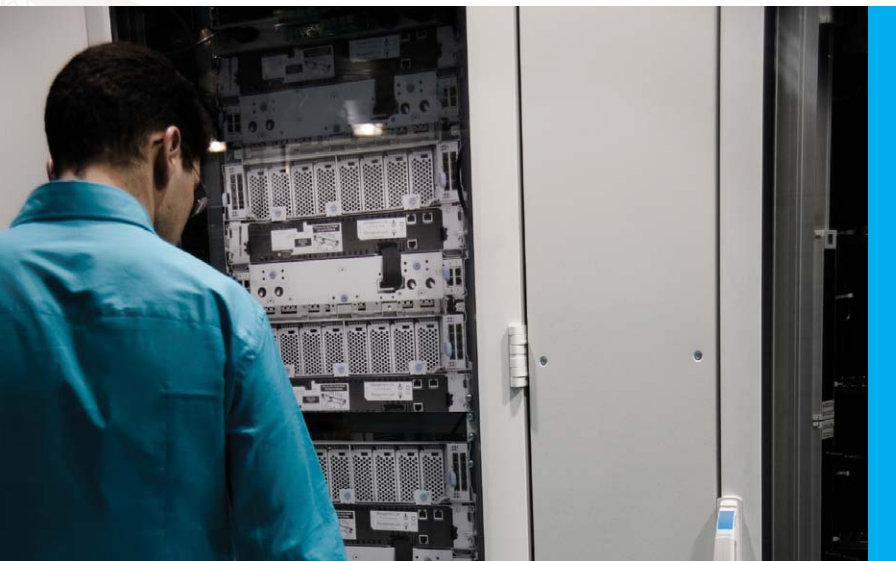
Identifying the most profitable tiered products, SLAs, and tariffs based on customer usage and behavioral analysis is key to maximizing ARPU and AMPU. Sybase analytics solutions give you the ability to use powerful predictive analytics against multi-terabyte databases containing customer, billing and network usage data, to identify the most profitable up-sell and cross-sell opportunities.

Tier 1, Tier 2 and Tier 3 operators worldwide, including the world's leading mobile telecommunications company and several top national providers of mobile and fixed telephone services, analyze and predict customer behavior with Sybase technologies. They rely on Sybase solutions to identify service gaps and offer additional services to customers, and to identify the best levels for strict, profitable SLAs, driving product introductions that enhance revenue and grow market share.

### Interconnect Billing Analysis

Ensuring that you receive revenue for interconnect services you provide, and pay partners only for those you use, is a key cost-saving factor in today's complex, multi-national and multi-vendor networks.

A leading national provider of fixed and wireless services depends on Sybase analytics to analyze interconnect billing data in minutes that previously took days.





## **SYBASE MOBILE OPERATOR SOLUTIONS**

Sybase mobile messaging interoperability solutions power the world's leading mobile operators. Our services for Mobile Operators include unrivalled global 2-way SMS and MMS interoperability, secure global data roaming, SS7 signaling transport, on-net and off-net Voice transport, unparalleled Operator Analytics, and remote application and device management solutions.

Sybase's global messaging platform delivers more than one billion messages every day; operators now have the ability to turn this wealth of data into meaningful information for their business. Operators gain greater insight into their off-network messaging traffic, enabling operators to better execute revenue generating activities; and predictive analysis quickly identifies and resolves network issues to drive higher quality service and better predict messaging trends to improve network planning.

### **Mobile Messaging Interconnect**

Sybase provides mobile message interoperability over the world's most extensive, global operator-grade private network, processing over 1.4 billion messages per day and enabling our mobile operator customers' messaging products to reach 900 operators and 4 billion subscribers. We operate the industry's largest 2-way global messaging hub, powering SMS and MMS routing, supporting both SS7 and IP.

Sybase's MMS gateway operates a clearinghouse for inter-operator MMS interconnections for National MMS and international MMS interoperability, and includes a web-based Route Elections Portal.

### **Mobile Operator Analytics**

Sybase's Operator Analytics solution provides industry-leading analytics to messaging network customers, who include most of the world's leading operators, as well as numerous Tier 2 and Tier 3 operators.

Based on Sybase real-time analytics, this hosted package is a turnkey service providing advanced reporting on message traffic and network operations, through a user-friendly Web interface. A self-service portal lets messaging providers detect and quickly respond to network outages, analyze delivery errors and identify patterns, and resolve customer issues.

... Forrester Research, Inc., predicts that 73 percent of the global enterprise workforce will be mobile users by 2012...

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### **Mobile Device and Application Management**

Forrester Research predicts that 73 percent of the global enterprise workforce will be mobile users by 2012, challenging global companies to control costs, interoperability and security for the increasing number of mobile workers, devices, and applications in the face of ever-growing heterogeneity of corporate mobile environments.

Sybase provides the industry's most powerful and flexible mobile device management and security solution, which leading providers such as Verizon and Orange Business Services (France Telecom) use to deliver managed mobility solutions for their enterprise clients.

### **Traffic Management, QoS and Effective CRM**

A hosted offering of Sybase's industry leading real-time analytics and its unrivalled global mobile messaging reach, provides deep analytics functionality on the Sybase 365<sup>®</sup> mobile services platform to uniquely address the needs of mobile operators, financial institutions and enterprise customers.

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For more information about Sybase data management, data analytics, and mobility solutions for communications service providers, visit [www.sybase.com](http://www.sybase.com).





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