

## How Policy Will Manage the Mobile Data Deluge

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May 2010

### POLICY MANAGEMENT IS EVOLVING

At its most basic level, “policy management” refers to the business rules or logic that manage access to network resources, based on factors such as application characteristics and subscriber entitlements. Over the last few years, however, policy servers have evolved to handle not only static data such as subscriber, network, and device information, but also dynamic, session-based data such as the network bandwidth requirements of an application and which network routes should be used to deliver the best quality of service.

At the same time, several significant industry shifts have affected the policy server market over the last few years, both expanding the range of operators that are deploying them and changing how they are actually used:

- **Rapid growth of IP-based traffic:** Unlike the more predictable circuit-based services, in which QoS is built into the technology, IP-based services have traditionally been best-effort, making the assurance of IP services more of a challenge. Operators have begun using policy control to better manage IP traffic, including implementing bandwidth caps to force heavy users to pay more and to better manage edge traffic during peak usage hours and traffic spikes.
- **Service innovation:** Incumbents are seeing unprecedented competition, creating an intense pressure to differentiate based on service features. Value-added services under consideration include subscriber control capabilities, including parental controls based on factors such as time of day and enterprise control of employee cell phones, and “turbo buttons” for bandwidth-intensive applications like streaming video.
- **Plans and pricing:** All-you-can-eat pricing, once the norm for data services, is being replaced by tiered service plans, both in cable and fixed line environments and increasingly in mobile environments faced with spectrum limitations. These plans are tiered by speed of connection, bandwidth consumed, or both, with subscribers who consume more than their allotted bandwidth often charged an extra fee as an incentive to move to the next tier up.
- **Standardization:** Standards have become increasingly important in the service provider environment as operators look to reduce their development and integration costs, and policy servers are no exception. Policy server deployments have largely been standardized around network-specific standards: PCMM in the cable industry, and 3GPP/IMS in the fixed line and wireless realm.
- **Regulatory requirements:** Recent regulatory mandates are affecting the policy market, particularly in Europe, where the European Union (EU) has enacted data roaming regulations that require wireless operators to implement real-time subscriber spend notifications and a cut-off mechanism once the subscriber’s bill reaches a certain limit. In the US, the regulatory environment around “net neutrality” remains a wild card, as operators push back against potential rules that could affect their ability to prioritize traffic over their networks.

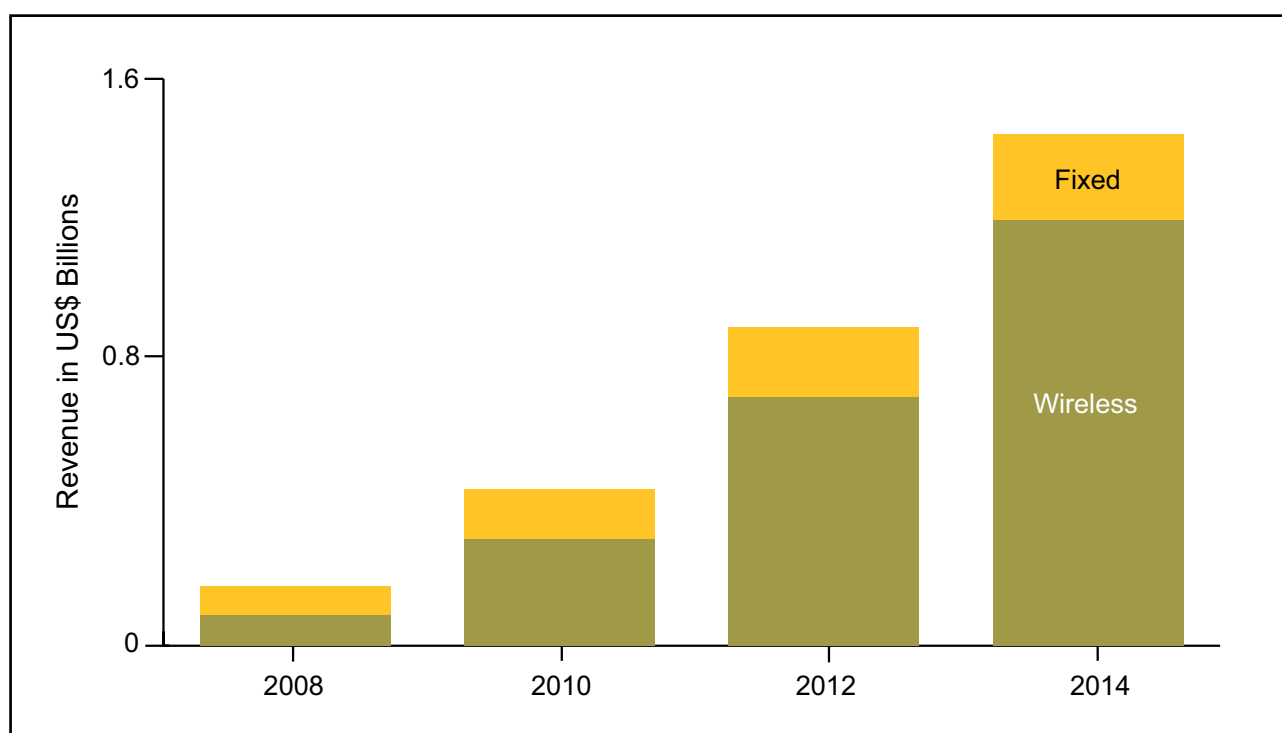
## THE MOBILE MARKET IS DRIVING POLICY GROWTH

These trends are contributing to strong growth in the policy server space, with the market expected to reach \$1.4 billion in 2014. As the chart below shows, the strongest growth will occur in the wireless market, as mobile operators deploy policy server platforms to manage network resources and enable subscriber authentication and authorization for third party applications such as streaming video, ringtones, and games.

The near-term growth opportunity in the wireless market will be in policy control deployments associated with 3G broadband rollouts, with deployments associated with WiMAX and LTE rollouts occurring later in the forecast period.

Longer-term opportunities will be driven by applications such as and charging control for mobile broadband roaming and, for those operators with WiMAX and LTE networks, the ability to deliver over-the-air provisioning of modems and other CPE. Other key drivers include fair use mandates in EU countries and using policy servers to enable value-added capabilities, such as parental control or variable charging based on time of day for content downloads.

**POLICY SERVER MARKET FORECAST**



© Infonetics Research, *Policy Server Market Size, Market Share, and Forecasts* (March 2010)

On the fixed line side, the market has been driven largely by US cable operators deploying policy servers to manage their broadband edge resource networks for digital voice, DOCSIS 3.0, and switched digital video deployments. As operators like Time Warner Cable, Comcast, and Cox continue their IMS upgrades, they're increasingly looking at policy control as a way to enable services, such as broadband video, Web TV, and VoIP. Fixed line operators, including AT&T, Belgacom, and PCCW, are also deploying policy servers to manage bandwidth, subscriber authentication, and authorization for video on-demand applications for IPTV services over their DSL networks, and a large operator in Europe is using policy control to enable the delivery of third-party applications and content with ensured quality of service.

Throughout our forecast period, policy server deployments in the fixed line environment will be driven primarily by North American MSOs and DSL providers in EMEA. MSOs employ policy servers to assist in the rollout of DOCSIS 3.0 and switched digital video services, while the DSL providers in EMEA, and increasingly in Asia Pacific and North America, use policy servers to manage the transition from PPP-based authentication to more dynamic, DHCP-based authentication. Both operator types will use policy servers increasingly to deliver tiered broadband connections based on factors like application demands (online gaming, file sharing, etc.) and subscriber information. Another area of growing interest is using policy management to enhance business services, including videoconferencing, event broadcasting, and self-provisioning for VPN customers.

A policy/DPI product suite from a single vendor means lower integration costs and a lower likelihood of errors in data hand-offs

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## VENDOR PROFILE: THE THREE-PRONG APPROACH

### **Volubill** United Kingdom

UK-based Volubill takes a three-pronged approach to policy management, combining its PCRF-compliant CONTROL-IT Policy Manager solution with its CHARGE-IT charging solution and its CONTROL-IT Policy Enforcer, a policy enforcement point that provides deep packet inspection (DPI) capabilities.

The company positions the combination of these three elements as a way for operators to move away from flat rate charging by creating a model in which they can mine granular usage information from the network, then apply charging and policy rules to that information. The operator can then do more in-depth segmentation of its customer base and provide highly targeted service packages, such as an Internet gaming offering that ensures a specific quality of service (QoS).

Many of its customers seem to agree with this approach—half of Volubill's customers buy all three solutions, though several take only one component. Volubill has gained significant traction with its policy solution in emerging markets, including Africa and the Caribbean, where a heavily prepaid customer base and declining ARPUs drive the need for more sophisticated customer segmentation techniques. They have made inroads into more established markets as well, including a recent significant contract deal with an unnamed US operator.

Volubill's DPI capabilities are its primary differentiator in the highly competitive policy market. Though a number of policy vendors have announced partnerships with DPI vendors over the last 12 to 18 months, a policy/DPI product suite from a single vendor means lower integration costs and a lower likelihood of errors in data hand-offs. We believe this model will especially resonate with operators in emerging markets looking for more “out-of-the-box” type offerings that can be deployed quickly and cost-effectively.

The company faces tougher competition in more established markets, particularly when targeting the larger operators more likely to take a best-in-breed approach to their policy and DPI investments; however, its US win may well turn out to be the reference customer that opens doors in these markets and provides entry into policy opportunities that have been traditionally dominated by the larger vendors in this space.

## STRATEGIC OUTLOOK

As the policy market evolves and matures, policy deployments have begun to change. Early policy implementations tended to be more network-specific and/or specific to a certain challenge or pain point. As networks within developed countries converge under large operators and as greenfield operators build out multiservice network infrastructure, we are seeing these initial, smaller-scale implementations grow into larger, multi-network policy server RFPs and deployments, often incorporated into longer-term network infrastructure plans.

However, while we see policy deployments occurring hand-in-hand with network infrastructure deployments, particularly 4G WiMAX and LTE rollouts, we believe that at the end of the day, the majority of operators will opt for a standalone, best-in-breed policy control solution that enables them to handle policy decisions according to dynamic criteria across multiple network and service types.

We also anticipate that operators will increasingly use policy control capabilities to deliver innovative new services, including a broader set of on-demand services, targeted advertising based on user specified preferences and past usage trends, more customer self-service choices, and more flexible pricing models, such as a la carte. Policy will also allow operators to deliver a more uniform customer experience across multiple services and multiple devices.

These new services will drive interest in integrated policy and charging solutions, particularly in emerging markets that are primarily prepaid. As application bandwidth requirements continue to skyrocket, operators are looking for ways to better monetize their existing network capabilities, making one-size-fits-all pricing an unappealing option. By integrating policy control with charging, operators can offer more sophisticated pricing models, such as up-selling subscribers to higher tiers of service or selling temporary bandwidth prioritization on a per-use basis to meet specific application requirements. ■

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With 15 years as an analyst and journalist in the telecommunications industry, Shira Levine joined Infonetics Research in April 2009 an accomplished expert in the OSS, billing, and service delivery platform markets. She authors several Infonetics equipment market size and forecast reports on policy servers, service delivery platform (SDP) software and services, and subscriber data management (SDM) software and services, as well as an ongoing series of Continuous Research Service (CRS) notes and surveys on important communication industry players, technologies, and service provider trends.

In addition to deepening Infonetics' current OSS and policy coverage, Shira is expanding it to include emerging topics such as the changing service delivery infrastructure, the evolution of Telco 2.0, the role of integrated communications providers (ICPs), new service models (SaaS, hosted services, third party providers), and new ways for service providers to better leverage their competitive advantages for profit.

Shira speaks at vendor events and tradeshows around the globe, including TeleManagement World and Billing and OSS World, and is a consultant to startups, service providers, manufacturers, and the investment community.

Prior to Infonetics Research, Shira was the Senior Analyst in IDC's Next-Generation OSS and Billing Program, where she expanded the company's coverage and initiated SDP and telecom analytics market reporting. As a senior research analyst with Stratcast's OSS Competitive Strategies practice, she covered the OSS/BSS market and service providers' OSS strategies and requirements. Before becoming an analyst, Shira was Executive Editor of *America's Network* magazine, covering OSS/BSS, network management, service management, provisioning, customer care and billing. She was also the Editor of *Telecom Investor* and senior editor at *Telephony* magazine, where she covered the cable TV and telco video markets and regulatory events, including the pivotal Telecommunications Reform Act of 1996.

Levine holds a BA in Classics from Amherst College and an MSJ from the Medill School of Journalism at Northwestern University. She is based out of Infonetics' Boston Metro office in Massachusetts.

## ABOUT INFONETICS RESEARCH

Infonetics Research is an international market research and consulting firm serving the communications industry since 1990. A leader in defining and tracking emerging and established technologies in all world regions, Infonetics helps clients plan, strategize, and compete more effectively.

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