



Arab Internet Investments in “Mid-Boom”

Greg Goth

Middle Eastern Arab nations might be examples of the best and worst of the contemporary state of Internet connectivity. Although only about 4 percent of the region’s population has Internet access, and press reports decry political repression and a lack of local content, regional industry analysts say investors, vendors, and service providers are solidifying their positions in anticipation of a breakout situation for access created by new technologies such as WiMax (IEEE 802.16). In recent months, the region has been a hotbed for conferences extolling the opportunities for investment in network infrastructure.

“We are in the middle of the boom,” says Jawad Abbassi, general manager of Arab Advisors Group (AAG), an Amman, Jordan-based analysis and consulting firm. “When the dot-com bust happened, it happened around the same time a few Arab countries were liberalizing their markets ... All the regional operators in Europe and North America were just busy trying to fix their balance sheets, and this left the opportunity for Arab operators to emerge as regional operators. So now you have many cross-national operators in the Arab world.” He suggests that the combination of telecom policy liberalization, competition, and a greater acceptance of foreign and cross-border investments over the past few years has brought substantial change to telecommunications and media in the Arab world.

Reasons for Optimism

Although many press reports mention government officials’ distress at regional Internet-penetration rates, Abbassi says those figures don’t reflect the network’s growth rate in the region.

“It’s only 3 percent, but that’s up from 1 percent three or four years ago,” he says. “It’s definitely a matter of whether you see the glass as half full or half empty, and I am on the optimistic side.” He points to liberalization of international gateways, new competition in the access market, and WiMax deployment as signs that supply barriers are eroding, bringing lower bandwidth costs and other positive effects. “All these are chipping away at the supply bottlenecks and problems that cause the current high rates [to end users]. When these are resolved, hopefully the demand will pick up, and you’ll have another virtual cycle of more demand, meaning more economy of scale for operators who can pass savings on, creating more demand, and so on.”

AAG’s research shows that countries’ connectivity rates vary substantially from the regional average. Kuwait, for example, boasts a 12 percent rate; the United Arab Emirates follow closely with almost 10 percent; and Bahrain has a 7 percent rate. At the lagging end of the curve, Libya, Syria, Tunisia, Morocco, and Algeria all have Internet connectivity rates of less than 1 percent.

Another regional analyst, Prague-

based Mohsen Malaki of IDC, a marketing and information technology firm, says the regional digital divide also stems from intranational political and social realities as well as international issues of the “haves” and “have nots.” For large segments of the Arab population, not having Internet access isn’t a crippling detriment.

“There is a bit of a cultural divide within countries,” Malaki says. “You have a certain segment of the population that is high income, well-educated, that travels abroad, that demands connectivity to the Internet and mobile communications – they have the money to spend. And you have a large segment of the population in a lot of these countries that, for religious reasons, economic, or social reasons, they don’t want access, especially to the Internet. So you see a large segment of the population that isn’t yet looking at the Internet, or at least spending money to access it.”

Nonetheless, the analysts say the region’s governments realize they must encourage Internet adoption and investment. At the International Telecommunications Union’s (ITU’s) March 2006 conference in Doha, Qatar, Arab representatives drew up regional development plans to establish information and communications technology (ICT) indicators and capacity building, develop an Arab regulatory framework, create a center for digital documentation and archiving heritage, develop access nodes to connect Arab Internet networks, and translate ICT

terminology into Arabic languages (www.itu.int/newsroom/press_releases/2006/04-press-report.html).

Ground-Level Tactics and Strategy

If the lofty pronouncements from the conference rooms sound somewhat rarified and vague, Abbassi, Malaki, and Mohammad Ibahrine, assistant professor of political science at Morocco's Al Akhawayn University, offer ground-level insights into the Arab network's medium- and long-range future. Their ideas converge enough to provide likely high-level scenarios, yet diverge enough to provide observers with an interesting technological and cultural puzzle at the network's edge.

For example, although Malaki thinks new WiMax networks hold the greatest potential to increase Internet access, Abbassi says that the huge existing market for cellular mobile communications provides incumbent carriers an opportunity to become – at least for the immediate future – the de facto leaders in bringing the Internet to the region.

"The biggest success story is the cellular boom in the region," Abbassi says. "Cellular subscribers went from 50 million in 2004 to 85 million in 2005, whereas fixed line only grew by about 1.5 to 2 million, from 28 million to about 30 million."

Malaki says one possible hindrance to greater investment by incumbent cellular providers is that the Global System for Mobile Communications (GSM) technology in use in the region doesn't universally optimize packet-based communication, and next-generation 3G and High-Speed Packet Downlink Access (HSPDA) licensing and deployment costs will be prohibitive for all but a few operators. He therefore believes alternative operators will opt for WiMax in larger numbers.

"In the medium term, there will be much higher growth in terms of broadband connectivity via WiMax than 3.5G or HSPDA," he says.

However, Abbassi says incumbents have a huge stake in upgrading their own networks.

"Eventually, the service providers will follow the major markets," he says. "Let's say you have an Internet-enabled service in a place like Morocco, where Internet users are .33 percent, but cellular users are close to 40 percent – would you go for the .33 percent or the 40 percent? So the supply will be shaped largely by the existing demographic situation on the ground. The cellular operators must have content strategies that look at access strategies. Do they want to stay exclusively cellular, or do they want to branch out to technologies like WiMax?"

The region's mobile explosion also presents a potential seismic shift in the way the Arab media reaches its audience. For example, Abbassi says newspaper readership is dropping in Jordan; across the region, average media advertising rates have dropped 30 to 40 percent in the past two years as the number of free satellite television stations has rapidly expanded. Content providers are thus exploring how to expand their online presence by tapping the large number of cellular subscribers via interactive services over their mobile devices. Abbassi also says the long-lamented lack of Arab content on the Web is easing. Daily newspapers have started to establish a firm presence on the Web; banks and financial services companies have also started to move online; and other enterprises are beginning to realize the cost savings and efficiencies of online business, as Western and Asian enterprises did several years ago.

In April, German search engine Seekport and Saudi Arabia-based MITSCO, a translation services company, announced a joint venture to create a dedicated Arabic search engine called Sawafi ("Sandstorm;" www.seekport.biz/uk/pressrelease060425.html). In announcing the project, the companies predict the current estimated 100 million Arabic-language Web pages

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A **European Union (EU) directive** requiring that **electronics manufacturers limit toxic substances** in new products takes effect 1 July 2006. The **Restriction of Hazardous Substances Directive 2002/95/EC (RoHS)** was adopted in February 2003 along with the **Waste Electrical and Electronic Equipment Directive 2002/96/EC**, which sets targets on the collection, recycling, and recovery of electrical goods. RoHS aims to prevent hazardous waste generation by requiring manufacturers to limit total concentrations of certain toxins, such as **lead** and **mercury**, to 0.1 percent of homogenous materials within products, with a .01 percent limit on **cadmium**. Similar laws will take effect elsewhere in 2007, including in **China, South Korea, and California**.

Further information, as well as the directive's text, is available at http://ec.europa.eu/environment/waste/weee_index.htm.

The **World Wide Web Consortium (W3C)** published a First Public Working Draft of the **Device Independent Authoring Language (DIAL)** in June 2006. DIAL's goal is to let developers specify different content layouts to account for mobile devices' differing capabilities, including screen size, color, and resolution. The draft standard, part of the **W3C's Mobile Web Initiative**, is based on XHTML and cascading style sheets, but lets developers omit different document sections and use Media Queries to specify various style sheets for those that remain.

More information is available at www.w3.org/2006/03/dial-pressrelease.html.en.

The **International Telecommunications Union (ITU)** has launched the **ITU Cybersecurity Gateway**, an information resource on national and international cybersecurity-related initiatives and Web sites. The portal provides resources for businesses, governments,

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international organizations, and private citizens on topics such as spam, spyware, worms, viruses, and denial-of-service attacks.

More information is available at www.itu.int/cybersecurity.

The **Near Field Communication (NFC) Forum** — which aims to advance **NFC technology** and enable short-range, wireless transactions between electronic devices, such as mobile phones, digital music players, and PDAs — has announced its architecture and **five standards-based specifications**, along with initial tag formats for forum-compliant devices. The forum's new specifications, announced in early June 2006, include a data exchange format and record-type definitions (RTDs), along with RTD specifications for plaintext, posters incorporating embedded tags, and a Uniform Resource Identifier RTD for elements that refer to Internet resources.

More information is available at www.nfc-forum.org.

Several prominent IT and healthcare companies have established the **Continua Health Alliance** to create an “ecosystem” of interconnected health products and services. Alliance members include **Cisco Systems, GE Healthcare, IBM, Intel, Kaiser Permanente, Medtronic, Motorola, Panasonic (Matsushita Electric), Partners HealthCare, Royal Philips Electronics, Samsung, and Sharp**. The alliance will use existing networking standards to

provide guidelines and product interoperability certification in areas such as chronic disease management, elderly healthcare monitoring, and proactive health and fitness.

More information is available at www.continuaalliance.org.

Pretty Good Privacy (PGP) developer **Philip Zimmermann** has released a public beta version of **Zfone** for **voice-over-IP (VoIP) conversation encryption**. Zfone is based on the **ZRTP protocol**, which uses peer-to-peer technologies to facilitate key agreement and management over the **Real-Time Transfer Protocol (RTP) packet stream**, rather than relying on server-based email encryption models such as public-key infrastructure (PKI), trust models, and certification authorities. Zimmermann has proposed ZRTP to the Internet Engineering Task Force (IETF) as a public standard.

The Zfone source code and free downloads for Windows XP, Macintosh, and Linux are available at www.philzimmermann.com/EN/zfone/index.html.

The **Organization for Structured Information Standards** announced the approval of **Business-Centric Methodology 1.0** as a standard in May. BCM helps managers communicate business goals, offering layered methods for acquiring interoperable e-business information within communities of interest.

More information is available at www.oasis-open.org/committees/bcm.

“Policymakers in the Arab world are trying to encourage people to put Arab content on the Internet,” he says. “But for the time being, they are also encouraging the use of English among young people because without English, you are ‘out.’ Morocco, for example, was a French colony, and they are turning to English, which is the language you must know to have access to power. It has become a priority for the elite and their children, so encouraging more Arab content and learning English run in concert.”

Governmental censorship and content filtering is also an issue for the region; both Malaki and Ibhahine say those governments that actively monitor Internet connections have been looking at the “Chinese model” in which the government controls access while still promoting connectivity growth. They believe the international private sector has adopted a *laissez faire* relationship with those governments similar to the relationships with the Chinese authorities.

However, the Arab region isn't a monolithic culture; the Chinese model could well prove untenable for those governments if subscribers, especially mobile users, can access the network from other nations that don't filter content.

The great unknown is how the deployment and legal strategies undertaken by the region's governments and network carriers will play out against its very young demographic. In urban areas, Malaki says, young people want access to the Internet.

“The overwhelming majority in the region are young people who see the Internet as standing for freedom,” Ibhahine says. He argues that governments realize that they must provide access to this large segment of the population to provide economic stability — and they might have to accept a more open society in doing so. □

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will double every year, making it vital to have a dedicated Arabic-linguistic search engine, rather than a translation of an English-based engine.

“Current search algorithms in the usual Internet search engines are hardly capable of observing even the simplest morphological conditions required to process Arabic-language contents in a meaningful way for users,” the companies said in announcing the project. “That is why

search engines have so far been underused in Arabic.”

Global Norms Still Prevail

Although increasing Arabic content online remains the goal for service providers, developers, and content providers, Ibhahine says the Arab society's elite realize that indigenous technologies can't exist alone in a vacuum, and that those who wish to excel must also take a global view.