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Internet Filtering in the United Arab Emirates in 2004-2005: A Country Study

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Abstract

The United Arab Emirates filters Internet content extensively, with blocking targeted particularly on material viewed as culturally insensitive or interpreted as offensive to Islam. By contrast, political and news sources are generally accessible. Overall, while UAE filtered 15.4% of the 8713 Web sites that ONI tested, the state's regime suffers from overblocking, thus preventing its citizens from accessing a considerable amount of material unrelated to UAE's expressed goals.

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1. EXECUTIVE SUMMARY¹

The United Arab Emirates (UAE) seeks to establish itself as an economic and technological leader in the Middle East, encourages Internet use for this reason, and yet blocks its citizens from accessing a substantial number of Web sites. The UAE government extensively blocks content that it considers objectionable for religious and cultural reasons, though not, apparently, material related to political dissent. The state's policy-makers have sought to resolve this tension by instituting an Internet filtering system based upon the SmartFilter commercial blocking service. Of the 8713 URLs that the OpenNet Initiative (ONI) tested in UAE, we found 1347 blocked (15.4%). Compared to most other countries in the world, UAE's filtering is extensive.

The news media, the sole Internet service provider (ISP), and Internet-based content providers in the UAE all face stringent legal controls on expression and access to information. The sole ISP, Etisalat, is owned by the state, which makes filtering a substantially easier proposition than if many private ISPs served the state's citizens. These protective measures, carried out through filtering processes and other forms of enforcement, are geared toward protecting political, moral, and religious values of the UAE and have considerable popular support. According to one survey, more than half of UAE's citizens agree that Internet censorship is an effective measure to protect family members from objectionable content.

The UAE uses the SmartFilter filtering software to block nearly all pornography, gambling, religious conversion, and illegal drugs sites tested. The state also blocks access to all sites in the Israeli top-level domain. ONI's testing of the UAE filtering regime also found blocking of sites on the Bahai faith, Middle East-oriented gay and lesbian issues, and English-language (though not Arabic-language) dating sites. While our results did not indicate that UAE uses its filtering system to block political sites, or news and media sources, we conclude that the state's broad content controls unintentionally block information unrelated to UAE's stated goals. The imprecision of the UAE filtering regime underscores the difficulty of extensive technical filtering of Internet content.

¹ The OpenNet Initiative is a collaborative partnership between three leading academic institutions: the [Citizen Lab](#) at the Munk Centre for International Studies, University of Toronto, [Berkman Center for Internet & Society](#) at Harvard Law School, and the [Advanced Network Research Group](#) at the Cambridge Security Programme (Centre for International Studies) at the University of Cambridge. As with all OpenNet Initiative work, these reports represent a large team effort. The work of principal investigators Jonathan L. Zittrain and John G. Palfrey, Jr. on this research report was made possible by a grant from the John D. and Catherine T. MacArthur Foundation's Research and Writing Grants Program of the Program on Global Security and Sustainability.

2. POLITICAL, TECHNICAL, AND LEGAL CONTEXT IN UAE

A. Sensitive / Controversial Topics for Media Coverage

The topics most sensitive for the UAE are those the state views as offensive to adherents of Islam. These include pornography, gambling, homosexuality, and other cultural issues. Conversion of Muslims to other faiths is a sensitive issue. Dating services that allow dating non-Muslims are also of concern. Politically, terrorism is a focus, and the security forces monitor extremist groups.² Criticism of the government, Islam, or of UAE nationals are also highly sensitive subjects.³

B. Internet Infrastructure and Access

The UAE is among the most highly connected countries in the Middle East. In 2003, the state had an estimated 1.11 million Internet users.⁴ 36.7 percent of the population currently has access to the Internet.⁵ 11 percent of these Internet users have high-speed connections.⁶ The state currently only has one licensed ISP, Emirates Internet and Multimedia (EIM), also known as Etisalat.⁷ All Internet connections go through this provider, which offers a wide range of services, from dial-up modem access to high-speed connections for businesses.⁸ Etisalat is largely owned and operated by the state, although some public stock is available. The company is also currently deploying high-speed wireless networks throughout the UAE.⁹ Etisalat operates an Internet exchange point, the Emirates Internet Exchange.¹⁰ The company also manages domain name registration for UAE's top-level country code domain name .ae through the UAE Network Information Center.¹¹ While the state has announced plans to end Etisalat's monopoly by permitting competitors to enter the market in 2006, it has not made clear how this transition will occur.¹² Thus, it is not clear when other ISPs will be permitted to offer services in the UAE, nor whether the state will require them to filter material as well.

² The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

³ The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

⁴ CIA, *The World Factbook: United Arab Emirates*.

⁵ *United Arab Emirates Yearbook 2004: Information and Culture* at 253.

⁶ *United Arab Emirates Yearbook 2004: Information and Culture* at 254.

⁷ See *United Arab Emirates Yearbook 2004: Infrastructure* 184, available at http://www.uaeinteract.com/uaeint_misc/pdf/English/Infrastructure.pdf (describing Etisalat as "the sole telecom provider" in UAE).

⁸ See eCompany, *Home*, at <http://ecompany.ae/eco/isp/english/index.html> (listing services available through Etisalat).

⁹ See *Wi-Fi Technology Makes Much Headway in Dubai*, Gulf News, Oct. 28, 2004, at <http://www.gulfnews.com/Articles/Business2.asp?ArticleID=137465>.

¹⁰ *United Arab Emirates Yearbook 2004: Infrastructure* at 188.

¹¹ *United Arab Emirates Yearbook 2004: Infrastructure* at 188.

¹² The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

C. General Media Regulation

Media outlets in UAE are tightly controlled. The state ranked very low on the freedom of the press list compiled by Reporters Sans Frontières in 2004 – at 137 out of 167 countries.¹³ The UAE constitution “allows the publication of any material, as long as publication does not breach the bounds of responsibility that goes with such freedom.”¹⁴ However, domestic media are stringently controlled. Publishers and broadcasters must obtain a license from the Ministry of Information, and must deposit copies of any material broadcast or published in the UAE.¹⁵ Local attorneys argue that only defamatory content, criticism of the UAE president or friendly states, religious issues, and pornography are prohibited.¹⁶ In commenting about UAE’s press and publications law, one expert stated:

Freedom of speech under the law is limited, by way of censorship of printed matter and motion pictures which includes different prohibited matters such as publishing any insult to Islam, the government or higher interest of the state... [and] publishing opinions violating public decency, what purports to inciting hate crimes, confidential communications or military affairs or provisions of agreements or treaties concluded by the government before being published in the official gazette. The law further prohibits publishing anything that involves blemishing any Arab, Islamic or friendly country president.¹⁷

Criticism of Islam has resulted in prison sentences for journalists; negative comments about the ruling families of the emirates are not carried in the press for fear of imprisonment.¹⁸ There are some experiments with greater press freedom; the Dubai Media City, which is intended to attract investment and participation by content providers, is exempt from UAE’s media laws.¹⁹ Media companies working in Dubai Media City, though, have been asked by the state to sign a code of conduct pledging to respect cultural and religious sensitivities in the state.²⁰ Many journalists self-censor because they are foreign citizens and are able to remain in UAE only with a work permit, the issuance of which is controlled by the state.²¹

¹³ Reporters Sans Frontières, *Third Annual Worldwide Press Freedom Index*, at http://www.rsf.org/article.php3?id_article=11715.

¹⁴ *United Arab Emirates Yearbook 2004: Information and Culture* at 258.

¹⁵ Federal Law No. 15 of 1980 for Printed Matter and Publications; see Al-Tamimi & Company, *E-Commerce and the UAE Law 23*, available at <http://www.tamimi.com/pdf/ITLaw.pdf>.

¹⁶ Bassam Za’za’, *All Laws Applicable to Dubai Media City*, Gulf News, May 27, 2003 (quoting Hoda Barakat, a partner in the law firm Al-Tamimi and Company Advocates and Legal Consultants).

¹⁷ Bassam Za’za’, *All Laws Applicable to Dubai Media City*, (quoting Hoda Barakat).

¹⁸ The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

¹⁹ The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

²⁰ Reporters Sans Frontières, *United Arab Emirates – Annual Report 2004*, at http://www.rsf.org/article.php3?id_article=9986.

²¹ Reporters Sans Frontières, *United Arab Emirates – Annual Report 2004*.

D. Internet Access Regulation

Etisalat enjoys a monopoly under UAE federal law, which cannot be superseded by local legislation by the emirates.²² Law No. 1 of 1991 (The Etisalat Law) established the Emirates Telecommunications Corporation and granted it exclusive access to the state's communications and electronic infrastructure.²³ No other entity may "construct, possess, use or install any telecommunications facility and shall not allocate any line routes... except by virtue of a licence issued by [Etisalat]."²⁴ Importation or installation of equipment without Etisalat's permission is forbidden.²⁵ The government must maintain ownership of at least 60% of Etisalat's shares.²⁶

The UAE has successfully prosecuted people who attempted to bypass Etisalat's exclusive telecommunications access. Two people who set up a voice-over Internet protocol (VoIP) router and transferred calls from the Internet to the UAE telephone system were sentenced to three months in jail plus a substantial fine.²⁷

E. Internet Content Regulation

UAE's controls over Internet content are well-documented; the state faced pressure to limit Internet pornography, and communication by terrorists, almost immediately after beginning to offer online access.²⁸ Etisalat implements filtering on the Web proxy servers it uses.²⁹ The "block page" – a Web page with text indicating that the requested content cannot be accessed – from Etisalat's system states that Etisalat blocks anything "inconsistent with the political, moral, and religious value of the United Arab Emirates." The UAE government cites a 2002 survey by Etisalat that found 60% of its 14,000 domestic subscribers favored retaining filtering, "indicating that its role in protecting users from offensive material is considered to be an acceptable form of censorship."³⁰ 51% of surveyed subscribers "specifically felt that the proxy server protected family members while surfing online."³¹ However, "Business users and others who connect directly to the Internet by a dedicated line are unaffected by the

²² See Al-Tamimi & Company, *E-Commerce and the UAE Law* at 15.

²³ See Article 4, *Federal Act No. (1) of the year 1991 in respect of the Emirates Telecommunications Corporation*, available at <http://etisalat.ae/federalactlawe.pdf> (stating that Etisalat "shall exclusively undertake telecommunications services, operate, maintain and develop the entire public telecommunications system in the State [UAE] and also between the State and the outside World").

²⁴ Article 10, *Federal Act No. (1) of the year 1991*.

²⁵ Articles 10 & 19, *Federal Act No. (1) of the year 1991*.

²⁶ Article 7, *Federal Act No. (1) of the year 1991*.

²⁷ Eman Abdullah & Joanna Langley, *Firm To Appeal in Internet Phone Call Case*, Gulf News, June 25, 2001.

²⁸ See, e.g., Steve Kettman, *1,001 Arabian Nights of Sex*, Wired, Apr. 24, 2001, at http://www.wired.com/news/culture/0,1284,43243,00.html?tw=wn_story_related (describing UAE's efforts to block access to pornographic content); Grey E. Burkhardt, *National Security and the Internet in the Persian Gulf Region*, March 1998, at <http://www.georgetown.edu/research/arabtech/pgi98-10.html> (providing a history of UAE's initial Internet deployment and concerns over content); Privacy International, *Silenced – United Arab Emirates*, at [http://www.privacyinternational.org/article.shtml?cmd\[347\]=x-347-103788](http://www.privacyinternational.org/article.shtml?cmd[347]=x-347-103788) (Sept. 21, 2003).

²⁹ See eCompany, *FAQ's – Browsing*, at <http://ecompany.ae/eco/isp/english/csc/customercare/faq/browsing.html#q1> (describing how Etisalat's proxy server "receives a request for an Internet service (such as a Web page request) from a user [and] If it passes filtering requirements," returns the document to the user).

³⁰ *United Arab Emirates Yearbook 2004: Information and Culture* at 254.

³¹ *United Arab Emirates Yearbook 2004: Information and Culture* at 254.

filtering system.”³² The state opposes attempts to circumvent its filtering system. In November 2003, UAE blocked America Online’s (AOL) Web site because it advertised a “tunneling service” that allowed users to bypass the filtering proxy server.³³

3. TESTING METHODOLOGY

A. Methods

ONI performs technical testing across multiple levels of access at multiple time intervals. The team analyzes results within the contextual framework of the target state’s filtering technology and regulations. To obtain meaningful, accurate results we:

- generate lists of domain names and URLs that have been or are likely to be blocked;
- enumerate ISPs and national routing topography;
- determine the type, location, and behavior of the filtering technology;
- deploy network interrogation and enumeration software at multiple access points; and
- conduct a thorough statistical analysis of results.

Determining which URLs to test is a vital component of our research, as it reveals the filtering system’s technical capacity and content areas subject to blocking. ONI employs three types of lists:

- a list of “high impact” sites reported to be blocked or likely to be blocked in the state of concern due to their content (for example, political opposition);
- a “global list” containing a control list of manually categorized Web sites reflecting a range of Internet content (for example, news and hacking sites); and
- a multilingual list of significant key words used to generate significantly larger lists through search engine queries (including local language search engines).

To explore Internet filtering, we deploy network interrogation devices and applications that perform censorship enumeration at various Internet access levels. These tools download the ONI testing lists and check whether specific URLs and domains are accessible from that point on the network. Interrogation devices are designed to run inside a state (i.e., behind its firewall) to perform specific, sensitive functions with varying degrees of stealth. Similarly, ONI distributes interrogation applications to trusted volunteers who run the software inside the state. For testing, ONI obtains network access at multiple levels through:

³² *United Arab Emirates Yearbook 2004: Information and Culture* at 254.

³³ Peter J. Cooper, *United Arab Emirates – Technology Briefs Column*, Knight-Ridder Tribune Business News, Nov. 24, 2003.

- Proxy servers,
- Long distance dial-up,
- Distributed applications, and
- Dedicated servers.

During initial testing, we use remote computers located in countries that filter. These remote computers are located behind the state's firewalls yet allow access to clients connecting from the wider Internet. We attempt to access the URL and domain name lists through these computers to reveal what content is filtered, and how consistently it is blocked. ONI also tests these lists from control locations in non-filtered countries. The testing system flags all URLs and domains that are accessible from the control location, but inaccessible from ones inside the target state, as potentially blocked.

During our next phase of testing, we use Internet connections from within the target state to verify our results from proxy-based testing. This method checks the accuracy of our proxy server testing and also demonstrates the results a user from within the target state can expect.

B. Results Analysis

We carefully analyze the data obtained from testing to document the nature of filtered content, to explore the technical capabilities of the target state, and to determine areas that require in-depth study during in-state testing. In particular, ONI examines the response received over HTTP when attempting to access filtered content. As discussed, when content is filtered, users often receive a block page. In other cases, filtering can be less obvious or transparent, appearing to be network errors, redirections, or lengthy timeouts rather than deliberate blocking. We analyze HTTP headers – text sent from the Web server to the browser – to derive information about both the server and the requested page. This information is generally hidden from the end user. However, these headers indicate whether content was successfully accessed or was inaccessible. If an error occurs, the HTTP protocol returns codes that indicate the type of error in the header. Thus, by analyzing the headers captured during testing, we can distinguish between errors caused by Internet filtering and more mundane, unintentional network connection errors.

We classify results in one of four categories:

- URL is accessible both through the local connection and the remote computer (not filtered);
- URL is accessible through the local connection but inaccessible through the remote computer, which returned a different HTTP response code (possibly filtered);
- URL is accessible through the local connection but inaccessible through the remote computer due to a network connection error (possibly filtered, but not definitive); or
- URL is accessible through the local connection but inaccessible through the remote computer; the remote computer returns a block page (filtered).

If a URL is inaccessible through both the local connection and the remote computer, we consider it “dead” and remove it from the results.

The ONI team analyzes blocked, unblocked, and uncertain URLs both at an aggregate level (to estimate the overall level of filtering) and at a category level (to indicate what types of content the state seeks to control). We publish country studies that provide background on a state's political and legal

system, lists of tested sites, and analysis of results to reveal and analyze what information a state blocks and how it does so. We note, however, that our results and analysis capture a “snapshot” of a state’s filtering system for a specific point or period of time; governments can and do alter the content they block dynamically.

C. Methods Specific to UAE

In UAE, we tested servers on two networks: EMIRNET and UAEUNET. These two networks have different filtering characteristics – they return different block pages to users when a Web page is filtered, and appear to run either different versions of the SmartFilter software or different configurations of the same version. EMIRNET is the network utilized by the sole public ISP within the UAE, while UAEUNET is a university-specific network. EMIRNET is the only public network in the UAE; UAEUNET is the network of the United Arab Emirates University and is operated through its Information Technology Center.³⁴ Accordingly, we tested EMIRNET more extensively, as this network’s filtering likely reflects the experience of the majority of Internet users within the state.

We also performed in-state testing of the UAE filtering system by using dial-up Internet access to the EMIRNET network. With this method, we tested the results of our high-impact list using UAE proxy servers. We tested 119 URLs with both our proxy method and our dial-up method. The results for 104 URLs (87.4%) matched in both tests (either blocked or unblocked using each method). Seven URLs (5.9%) did not match (results differed with the two testing methods); it is possible that the proxy method did not accurately reflect whether these sites were filtered, or that UAE changed its filtering for these URLs during the time between the two testing methods.³⁵ Eight sites (6.7%) returned internal errors during our dial-up testing that prevented a comparison. Overall, these results confirm the validity of our proxy method testing.

D. Topics Tested

ONI tested Web sites on topics likely to be sensitive to the UAE. We compiled and checked URLs on political subjects (such as the state of Israel), cultural ones (such as dating sites and pornography), and religious issues (such as the conversion of Muslims to other faiths, gambling, and criticism of Islam). In addition, we examined sites on filtering circumvention tools (such as anonymizers), gay and lesbian issues, illegal drugs, sexuality, and domestic political topics.

³⁴ See, e.g., Grey E. Burkhardt, *National Security and the Internet in the Persian Gulf Region*, March 1998, at <http://www.georgetown.edu/research/arabtech/pgi98-10.html> (providing a history of UAE’s initial Internet deployment and concerns over content); Privacy International, *Silenced – United Arab Emirates*, at [http://www.privacyinternational.org/article.shtml?cmd\[347\]=x-347-103788](http://www.privacyinternational.org/article.shtml?cmd[347]=x-347-103788) (Sept. 21, 2003); United Arab Emirates, at <http://mosaic.unomaha.edu/GDI1998/7IUAE.PDF>; see also WHOIS data at http://www.ripe.net/cgi-bin/whois?form_type=simple&full_query_string=&searchtext=194.69.1.0&submit.x=0&submit.y=0&submit=Search.

³⁵ We found sites with results that did not match in the two rounds of testing in the following high-impact categories: dating (one site; www.muslimmatch.com), pornography (one site; www.whitehouse.com), gambling (one site; www.pokerstars.com), and hacking (four sites; bobby.watchfire.com, www.l0pht.com, www.magusnet.com, www.uaeu.ac.ae/bs/index.html). In each case, proxy-based testing reported the site as blocked; dial-up testing reported the site as unblocked.

4. RESULTS AND ANALYSIS

A. Summary

The UAE has a wide-ranging filtering system that prevents its citizens from accessing an unusually high percentage of Internet content. UAE blocked more than 15% of the hand-chosen sites that we tested. The most extensive blocking occurs on topics such as pornography, gambling, religious conversion, English-language dating sites, and URLs in the Israeli top-level domain (.il). Much of this filtering is accomplished through fairly simple processes, such as using the SmartFilter blocking software to exclude certain topics or using a single method to block all content from the Israeli top-level domain. Our testing indicates that certain topics – particularly criticism of Islam, attempts to convert Muslims to Christianity, and homosexuality within the Middle East – receive additional attention.

We did not find evidence of concerted effort to identify and block all potentially offensive content. For example, we found little evidence of attempts to block Arabic-language dating sites, despite UAE's blocking sites in the SmartFilter dating category, or Israel-related content not in the .il domain, despite UAE's complete blocking of that domain. For other topics, such as the Bahai faith and criticism of the UAE's government, a single, highly visible site is blocked, but this appears to be a symbolic effort, since other sites with similar content are readily available.

Like its neighbor Saudi Arabia, UAE uses US-based Secure Computing's SmartFilter as a source of "black lists" and method of blocking access. SmartFilter classifies Web sites into different categories. Users of the software, such as UAE, can select which categories to block; this prevents Internet users from accessing any site in a blocked category. We determined that UAE blocks sites in the following SmartFilter categories: Cults / Occult, Drugs, Gambling, Obscene / Extreme, Nudity, Sex, Dating, Criminal Skills, and Anonymizer / Translator.³⁶ The SmartFilter software automates classification and blocking of Internet content, but removes the highly normative, political judgments about how to categorize material to be blocked from governments and citizens and places it with private (and, in this case, foreign) companies. Moreover, SmartFilter is prone to classification errors and overblocking.³⁷

We found that the EMIRNET network blocks every site in Israel's country code top-level domain (ccTLD), .il³⁸ – we could not access any sites in that domain from the EMIRNET servers. The UAEUNET network blocked some, but not all, sites in the .il domain.

³⁶ Our analysis indicated a correspondence of 84% or greater between UAE's blocking and SmartFilter's classification of sites in these categories. All other categories had a correspondence between blocking and classification of 20% or less. We checked the SmartFilter categorization for each site using the SmartFilterWhere tool available online at <http://www.securecomputing.com/index.cfm?skey=234>.

³⁷ See OpenNet Initiative, *Internet Filtering in Saudi Arabia in 2004*, at <http://www.opennetinitiative.net/studies/saudi/#toc4c> (discussing SmartFilter classification errors).

³⁸ See Internet Assigned Numbers Authority, *.il – Israel*, at <http://www.iana.org/root-whois/il.htm> (last updated June 3, 2004).

B. Global List Results

Our global list analysis includes testing 752 sites in 31 categories.³⁹ We found extensive filtering in UAE as compared to nearly all other countries that we have tested. Overall, the EMIRNET network filtered 18.9% of sites tested (140 complete blocks and two partial blocks) and the UAEUNET network filtered 27.0% of sites (191 complete blocks and 12 partial blocks).⁴⁰ Of 31 categories checked, only six had no sites blocked (blogging, e-mail, encryption, filtering, free Web hosting, and human rights sites). 16 categories had at least one site blocked on each network. Our testing uncovered broad filtering of sites in the following categories: pornography (35 of 35 sites tested), anonymizers (20 of 21 sites), gambling (23 complete and one partial block of 25 sites tested), hacking (six sites on EMIRNET, seven on UAEUNET, of 20), and gay / lesbian / transsexual issues (eight sites on EMIRNET, eight complete and one partial on UAEUNET, of 38). Categories with significant, but lesser, blocking included fanatical religion, government, and weapons / violence. We found lower levels of filtering for entertainment, famous bloggers (such as blocking of the blog “Blogs for Bush” on the UAE University network), groups (including Usenet), major events, miscellaneous subjects, news, non-fanatical religion, search engines, translation sites, universities, and women’s rights.

We found widely divergent results in UAE on the two networks, EMIRNET and UAEUNET, for numerous categories. For example, EMIRNET filtered 22 of 28 drug-related sites, while UAEUNET blocked only three. UAEUNET blocked 12 provocative attire pages completely and two partially, but EMIRNET filtered only three. We saw similar divergence for humor (UAEUNET 13 complete and one partial, EMIRNET three, out of 18), hate speech (UAEUNET 20 complete and one partial, EMIRNET two, out of 25), alcohol (UAEUNET 18 complete and two partial, EMIRNET zero, out of 22), and sex education (UAEUNET 14 complete and one partial, EMIRNET two, out of 28).

UAE employs Internet filtering that covers a wide range of content areas and that blocks very high percentages of certain kinds of content, such as pornography, anonymizers, and gambling. There are only a few topics that are completely unaffected by filtering.

C. UAE-Specific Results

To investigate Internet filtering on topics sensitive to the UAE, we tested three lists: a short, high-impact list; a longer list built from the high-impact set; and a longer list of sites related to separatist, paramilitary, military, intelligence, and political organizations.⁴¹ Taken together, our results demonstrate that the UAE state seeks, and maintains, strong controls over access to information on the Internet.

1. High-Impact List

Using our research on topics sensitive to the UAE state, we compiled a list of Web sites that UAE would potentially block. We tested 113 sites in 28 categories. On the EMIRNET network, 77 sites were

³⁹ See Appendix 1 for categorized results of the global list testing. To provide comparable results across multiple country studies, the majority of the sites in our global list have content only in English.

⁴⁰ A complete block is a site blocked consistently on a network’s servers. A partial block is a site blocked by some servers, but not by others, on a network.

⁴¹ See Bob Cromwell, *Separatist, Para-military, Military, Intelligence, and Political Organizations*, at <http://www.cromwell-intl.com/security/netusers.html> (April 2004).

blocked (68.1%). On the UAEUNET network, 58 sites were blocked (51.3%).⁴² 45 sites were blocked on both networks (39.8%).

Our high-impact testing found broad Internet filtering in numerous areas.⁴³ Pornographic, hacking, sexuality, gambling, and dating sites were completely or almost completely blocked in UAE. The EMIRNET network also blocked most sites on Israel, drugs, and the Bahai faith. We also found EMIRNET blocking of translation, news (Arab Times), and human rights (a page criticizing UAE's justice and prison system) sites, though we checked only a few such pages. The UAEUNET network blocked both sites we tested on entertainment, hate speech, and extremist groups. In addition, UAEUNET blocked the U.S. Department of Homeland Security Web page, the Friendster social networking tool, the SmartMobs page, and an anti-pornography Web site.

2. Long List

a. Methodology and Blocking Mechanics

After reviewing the results of our global list and high-impact list testing, we created a more extensive list of approximately 7,000 URLs to investigate more fully the scope of UAE's blocking. We constructed this "long list" through four methods: selecting URLs from relevant categories in the Open Directory Project (dmoz) taxonomy;⁴⁴ conducting keyword searches in Arabic and English using the Google search engine; selecting URLs classified into particular categories of interest by the SmartFilter software UAE employs; and collecting additional URLs necessary to test particular filtering behavior (for example, blocking based on keywords within the URL string). We tested this longer list only on the EMIRNET network.

EMIRNET responds to a user request for a blocked URL by returning a "Site Blocked" page that explains that the requested content is "inconsistent with the religious, cultural, political, and moral values of the United Arab Emirates."⁴⁵ Blocking was remarkably consistent across all of our testing; of 648 URLs that we determined were blocked by UAE, all but five were inaccessible on all 14 servers we tested. This degree of consistency suggests a fairly sophisticated system, as large-scale blocking challenges a filtering state with the difficulty of maintaining uniform lists of forbidden sites across networks.

b. URL-Based Blocking

EMIRNET blocked all 131 URLs we tested from the Israeli top-level country-code domain (.il). Given the variety of content areas covered in these pages, we conclude that UAE blocks all URLs in the .il domain, some of which present neutral or even positive information about the UAE. EMIRNET also

⁴² Two of the sites blocked on the UAEUNET network were blocked only partially – they were accessible from some of the servers we tested. These sites were <http://www.zensur.freerk.com/>, a hacking site, and <http://www.playgirl.com/>, a pornographic site.

⁴³ See Appendix 2 for a complete list of the testing results from our high-impact list.

⁴⁴ The Open Directory Project (known as "dmoz") is a classification system that constructed a massive taxonomy of Internet content and utilizes volunteer editors to maintain lists of the most useful and content-rich sites in each category. See *ODP – Open Directory Project* at <http://dmoz.org/>.

⁴⁵ See Appendix 4 for a copy of this block page.

blocks all URLs that contain the string “fuck” anywhere in them. For example, we could access the URL www.emirates.org during our testing, but the URL www.emirates.org/?fuck was blocked, though both URLs resolve to display the same Web page.⁴⁶ While we did not test URL string blocking extensively, our limited testing found that EMIRNET does not block URLs containing other potentially offensive strings (for example, EMIRNET does not block strings containing “ass,” “sex,” or “bush”). These techniques do not differentiate among content; UAE’s filtering blocks toy sites⁴⁷ in Israel along with the Likud party’s site,⁴⁸ and blocks pornographic sites along with pages about defunct dot-com companies.⁴⁹ Thus, this simple URL-based filtering is extremely broad, and sometimes inadequately selective, in scope; as a result, it blocks a wide range of content, some of which does not square with UAE’s stated filtering goals.

c. SmartFilter-Based Blocking

The SmartFilter software allows users, such as UAE, to block Web pages based on the nature of their content or function. SmartFilter has classified millions of sites and URLs into a number of categories. The filtering entity (for example, EMIRNET) then selects the categories they wish to block, with the result that all sites and URLs assigned by SmartFilter to those selected categories cannot be accessed by users (for example, subscribers to EMIRNET’s ISP services).

To verify that EMIRNET uses SmartFilter, we tested 33 URLs that our testing has determined are misclassified by SmartFilter as containing pornography or sexual content. Thus, ONI’s testing uses these URLs as a “fingerprint” of the SmartFilter software. If our results show that these sites are blocked in a state, we have a high degree of confidence that the state employs SmartFilter, though we confirm this conclusion through other means as well. Some of these classification errors are particularly egregious, including categorization of the site of a small-town newspaper in Kentucky and the sites of several local churches as pornographic or sex-related.⁵⁰ UAE blocks all 33 of these URLs. It is highly improbable that EMIRNET would block these sites for any reason other than the mistaken SmartFilter classification. Given this overblocking, and the general consistency between the sites blocked in the UAE and the SmartFilter classification (see below), we conclude that EMIRNET employs the SmartFilter software to filter Web content.

To determine the SmartFilter categories EMIRNET selected for blocking, we tested 10 to 20 URLs in each category.⁵¹ Our results indicate that the categories “Cults/Occult,” “Drugs,” “Gambling,”

⁴⁶ The “?” character in a URL indicates to the Web server that text following the ? should be treated as a “query string”; it does not change the location (Web page) to which the URL points. Instead, the ? and query string allow a Web browser to include additional information, such as a username and password, with the HTTP GET request. If the Web server for the URL’s site does not need or use this additional information, the server simply ignores it. See Ian Graham, *Uniform Resource Locators (URLs)*, at <http://www.utoronto.ca/webdocs/HTMLdocs/NewHTML/url.html> (last updated Jan. 5, 1998).

⁴⁷ UAE filters ToyStore, at <http://www.toystore.co.il/>.

⁴⁸ See Likud, at www.likud.org.il.

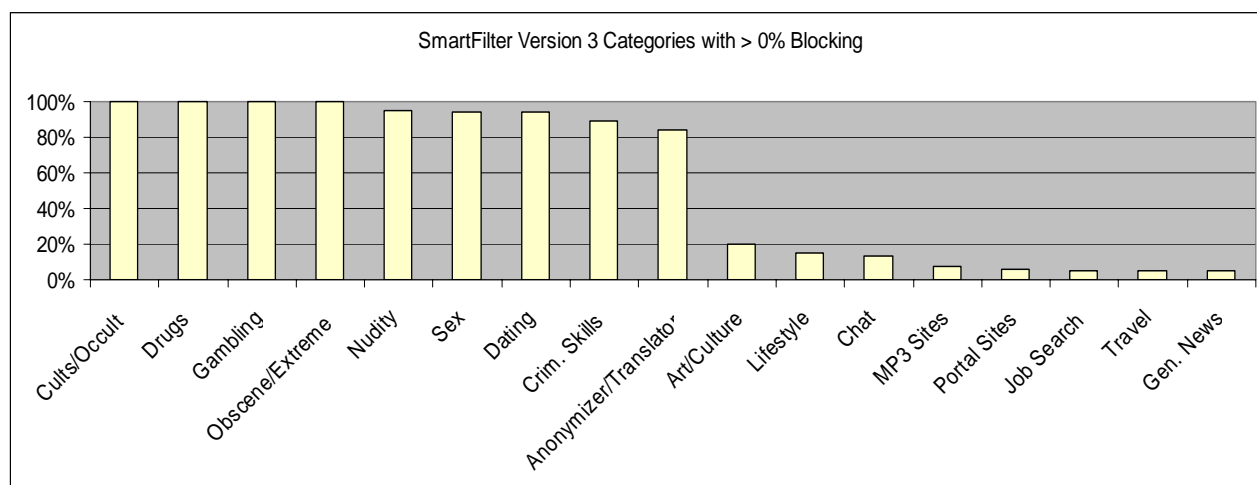
⁴⁹ See FuckedCompany, at <http://www.fuckedcompany.com/>.

⁵⁰ These erroneously classified sites are <http://www.barbourvilleadvocate.com>, <http://www.fuusm.org/>, <http://www.northharford.org/>, and <http://www.tannerchurchofchrist.com>.

⁵¹ Since SmartFilter classifies many URLs into multiple categories, we tested only URLs with a single category to avoid errors.

“Obscene/Extreme,” “Nudity,” “Sex,” “Dating,” “Criminal Skills,” and “Anonymizer/Translator”⁵² are currently selected for blocking. We found small percentages of sites in a few other categories blocked; however, the majority of these blocked sites were in the .il (Israeli) top-level domain, and thus we conclude that the sites were probably blocked due to URL-based blocking rather than SmartFilter category-based blocking.⁵³ The chart below shows all SmartFilter categories that contained any blocks, and the percentage of URLs within each category that were blocked.⁵⁴

Figure 1 – SmartFilter Category Blocking



d. dmoz Sites

Our SmartFilter data analysis documents broad categories of content to which EMIRNET attempts to block access. However, in some cases UAE apparently wants to make more granular distinctions than SmartFilter allows; for instance, it may seek to filter content related to a specific religion or sect, but not to block all religious material. To accomplish this goal, EMIRNET adds particular URLs to its list of blocked sites. To determine the types of content that EMIRNET tries to filter manually (independent of the SmartFilter categories), we tested groups of URLs classified by dmoz into content areas we suspected, based on our testing and background research, might be sensitive for the UAE. These

⁵² Anonymizers allow users to circumvent blocking; thus, any entity making a serious effort to filter Internet content must prevent their use.

⁵³ It is also possible that SmartFilter updated the sites' categorization between when we checked the category and when we performed the testing. This could explain why several of the blocked categories had less than 100% blocking.

⁵⁴ The SmartFilter categories with no blocked sites were “Entertainment,” “Games,” “Hate Speech,” “Humor,” “Investing,” “Mature,” “Online Sales,” “Personal,” “Politics/Religion,” “Self Help/Health,” “Sports,” “Usenet News,” and “Webmail.”

results also allow us to analyze the effectiveness of the SmartFilter-based blocking, as the constantly changing nature of the Web makes attempts to catalog its content inevitably incomplete.

It is important to note, however, that this testing does not directly tell us what content EMIRNET wishes to block, for two reasons. First, some blocking may result from SmartFilter misclassifications – for example, if the software incorrectly categorizes a Christian site as “Sex,” testing results may appear to show an attempt to block Christian content. Second, SmartFilter classifies sites based on multiple criteria, and distinguishing among these criteria to determine which led UAE to block a URL can be difficult – for example, a blocked site about gay and lesbian issues that also contains nudity could appear to represent an attempt to block gay and lesbian content, or to block nudity. We attempted to mitigate these concerns by using large testing sets, but we cannot determine precisely the degree to which particular results show EMIRNET’s intent.

Figure 2 – dmoz Category Blocking

dmoz Category	Percent of Sites Blocked
All Dating	47%
Arab-Targeted Dating	41%
General Gay and Lesbian	10%
Middle East Gay and Lesbian	30%
Israeli Travel, Media, and Government Sites (non-.il sites)	1%
Middle East Media	1%
General Christian Topics (Theology, Bible Study)	0%
Testimony of Former Muslims Converted to Christianity	43%
Opposing Views of Christianity – Muslim	17%
Christian – Examination of Islam ⁵⁵	50%
Opposing Views of Islam – Christian	47%
Opposing Views of Islam – Ex-Muslim	67%
Opposing Views of Islam – The Submitters	29%

⁵⁵ dmoz describes this category as containing “sites that examine Islam from a Christian perspective.” See Open Directory Project, at http://dmz.org/Society/Religion_and_Spirituality/Christianity/Apologetics/Examining_Other_Beliefs/Islam/desc.html.

Opposing Views of Islam – Sufism	9%
Total – Opposing Views of Islam	21%
Women in Islam – Rights and Equality	10%
Women in Islam – All Other Topics	2%
Bahai	7%
Judaism (non .il sites)	4%
Shia Islam	0%
Sufi	1%
Islamism ⁵⁶	0%

e. Google Search Results

To understand thoroughly blocking on the EMIRNET network, we must consider not only what types of content are blocked, but also evaluate the experience of a typical user. A user who cannot access a site does not know – or care – whether the URL is blocked because of its top-level domain, presence of a string of letters within the URL, categorization (correct or otherwise) by blocking software, or deliberate fine-grained targeting. A user who experiences multiple blocks while searching for sites on a particular subject will get an obvious message: that content is off-limits.

To approximate the typical user's experience, we conducted a series of searches with the Google search engine for certain keywords, in both Arabic and English, and determined the number of sites within the top 10 and top 100 results that were blocked.⁵⁷

⁵⁶ dmoz describes this category as “an umbrella term referring to several Islamic revival and purification movements which seek to institutionalize Islamic beliefs and values in government, the economy, and society.” See Open Directory Project, at http://dmoz.org/Society/Religion_and_Spirituality/Islam/Islamism/desc.html.

⁵⁷ We translated keywords from English to Arabic using an automated process. This creates the possibility that some of the Arabic terms used were not the most commonly used within a given context.

Figure 3 – Blocking of Sites Listed in Google’s Top Ten Results

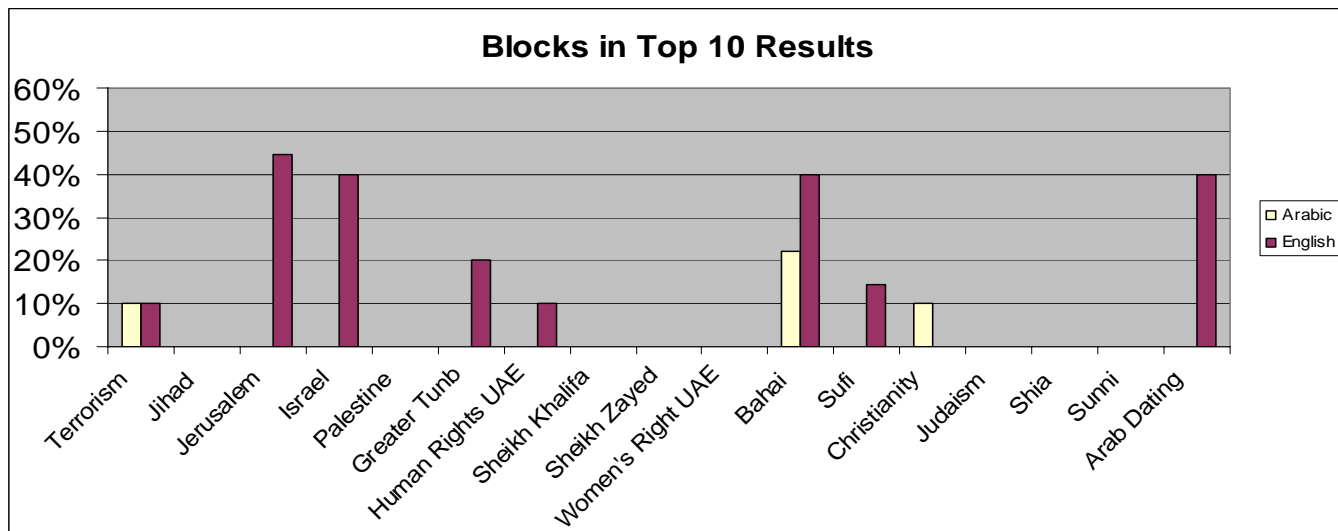
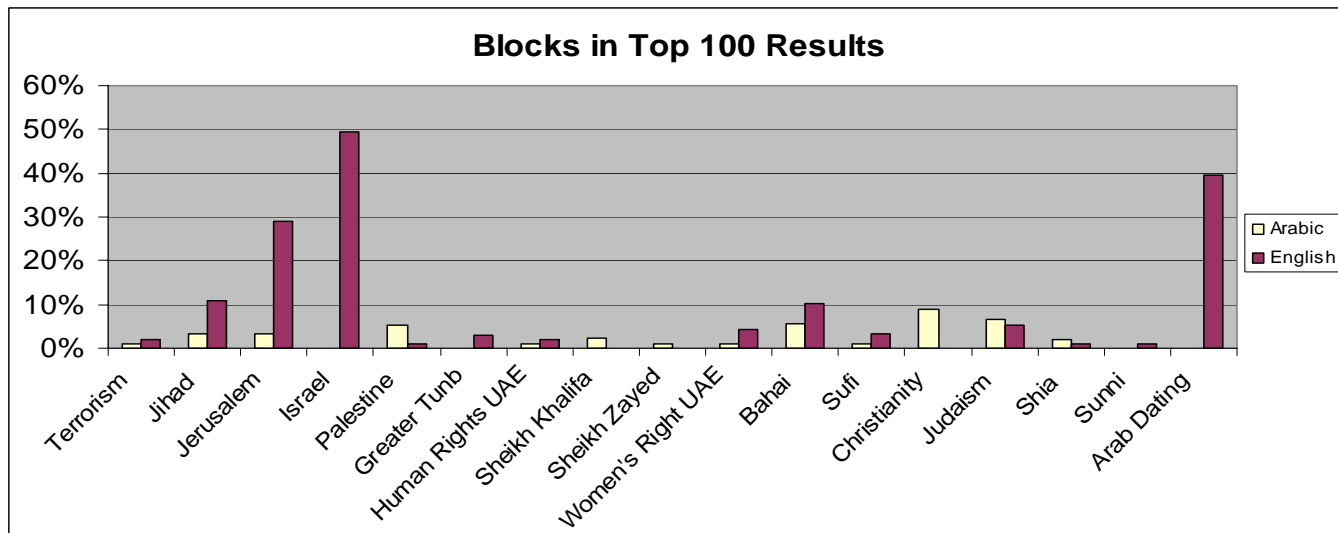


Figure 4 – Blocking of Sites Listed In Google’s Top Hundred Results



f. Analysis

Based on the long list testing, we analyze filtering on the EMIRNET network as follows.

i. Social Blocking

EMIRNET filters a great deal of content as proscribed by Islam. Sexual and pornographic materials (including sites with nudity or classified as obscene) are blocked by enabling the relevant SmartFilter categories, and all URLs containing the word “fuck” are also blocked, regardless of the Web site’s content. EMIRNET uses SmartFilter categories to block content related to drugs, gambling, and “criminal skills.”⁵⁸

EMIRNET also attempts to block access to online dating sites by activating the associated SmartFilter category. Our Google and dmoz testing each found approximately 40% of the English language Web sites related to Arab dating services were blocked. However, we also found that none of the Arabic language sites listed in response to a similar Google / dmoz query were blocked. We believe that this phenomenon results from the English-language focus of the SmartFilter software and from a lack of effort by EMIRNET to locate and block dating sites in Arabic. It is not clear whether EMIRNET believes that activating the SmartFilter category is sufficiently effective, or whether EMIRNET does not view dating sites as sufficiently important to warrant additional filtering efforts.

EMIRNET appears to make some effort to block sites related to gay and lesbian issues, particularly those focusing on the Middle East. While EMIRNET has not activated the SmartFilter “lifestyle” category (a euphemism for gay, lesbian, and bisexual material), we found a moderate level of blocking of gay / lesbian dmoz sites that may indicate deliberate targeting of this content. While our previous research indicates that sites within this category have an increased likelihood of being classified as sexually-focused by SmartFilter,⁵⁹ the significantly higher blocking of Middle East-related gay and lesbian sites (30% vs. 10% of general sites on the topic) suggests intent to target this content.

ii. Religious Blocking

EMIRNET targets several types of religious material for filtering, primarily sites related to the conversion of Arab Muslims to Christianity and those concerning the Bahai faith. EMIRNET has also activated the SmartFilter category “Occult/Cult.” Sites critical of Islam are also likely to be blocked. Small numbers of sites pertaining to other religious beliefs are blocked, but these may simply be the result of inadvertent overblocking.

EMIRNET does not intend to block English-language Christian sites in general. This is consistent with the presence of a large Christian minority in UAE and the existence of Christian churches within the state.⁶⁰ However, English language sites concerning Muslims who converted to Christianity are

⁵⁸ SmartFilter states that this “category includes URLs that either provide instructions for or identify methods to promote, encourage, or provide the skills to commit illegal or criminal activities.” Secure Computing, *Control List*, at <http://www.securecomputing.com/index.cfm?skey=86#cs>.

⁵⁹ For instance, SmartFilter classifies the Web site of the Texas Log Cabin Republicans (<http://texas.logcabin.org/>) as “pornography.” See also OpenNet Initiative, *Internet Filtering in Saudi Arabia in 2004* § 4(D)(3)(a), at <http://www.opennetinitiative.net/studies/saudi/#toc4d>.

⁶⁰ See, e.g., *Maranatha Full Gospel Church*, at <http://www.geocities.com/maranathadubai/>.

frequently blocked, as are sites exploring the similarities between Muslim and Christian doctrine (often in the context of proselytization). “Christianity” was the sole Google search term tested where Arabic language sites were occasionally blocked (10%), but English language sites were not (0%).

EMIRNET blocks some of the most visible Bahai Web sites (two of the top 10 results in Arabic and 4 of the top 10 results in English from a Google query). This blocking, however, does not extend to most material concerning the Bahai faith in either language – only 6% of the top 100 results in Arabic, 10% of the top 100 in English, and 7% of the dmoz sites on the subject were filtered.

Sites critical of Islam are deliberately targeted by EMIRNET for blocking. Our testing revealed that 21% of the sites listed in dmoz as presenting negative views of Islam were filtered. Christian views and those of ex-Muslims were particularly likely to be blocked.

We found moderate blocking of material related to Sufism and Judaism, but these results are inconclusive – while one of the top 10 English language results for a search on “Sufi” was blocked, nearly all other material on the topic was available during our testing. We found small percentages of sites from Google search results and dmoz categories about the Jewish faith were filtered, but it is not certain to what degree this is an intended result.

As expected, we found only incidental blocking of Islamic-related material; the sole exception was material pertaining to the role of women in Islam. There were only two blocked sites in search results for “Shia” and “Sunni” (potentially either from overblocking or anomalous search results), and none of the dmoz sites in the categories of “Shia Islam” and “Islamism” were filtered. However, 10% of the sites listed by dmoz under the subcategory of “Women in Islam – Rights and Equality” were blocked, compared to 2% of the other sites under the more general subcategory “Women in Islam.”

iii. Political Blocking

In addition to attempting to block content from Israel, EMIRNET performs a limited amount of politically-based filtering. The most visible political blocking targeted a single Web site, and the scattered blocking we found elsewhere does not conclusively indicate intent. Filtering of Middle Eastern media sources was similarly limited and appears to result mostly from other, unrelated blocking goals, with a single exception (the Arab-American newspaper Arab Times, discussed below).

EMIRNET’s blocking of Israeli content is broad, but not particularly effective. The network has likely added the string “*.il” to its block list, which prevents access to all content coming from the Israeli top-level domain. The filtering extends to blocking www.israel.com and www.israel.org, but encompasses scant other content on Israel. We tested 77 URLs from a variety of dmoz categories related to Israel that were not in the .il top-level domain and found none of them blocked. Among the sites tested, and accessible, were israelnews.net, www.israelnationalnews.org, and www.haaretzdaily.com. High blocking percentages for related English-language search results resulted almost entirely from the .il block.

Our testing located only slight blocking related to UAE domestic political issues. English-language searches for “human rights UAE” and “Great Tunb” (an island whose ownership the UAE is currently disputing with Iran) had one and two, respectively, of the top 10 results blocked, but all three blocked URLs were within the www.uaeprison.com domain, which EMIRNET filters. We found some

blocking of Arabic language sites returned in response to Google queries on the names of the current and former rulers of the UAE, but the results were not determinative.

We located similarly minimal evidence that EMIRNET attempts to block access to media sites. While 1% of the dmoz list of Middle East media sites was blocked, all of these blocks were either due to the blanket .il block or, in one case, the affiliation of the media source with an Arab-focused Christian group. However, we did find that EMIRNET filters an Arabic language Arab-American newspaper, www.arabtimes.com. Interestingly, we also found this site blocked in our Saudi Arabia testing.⁶¹

3. SPMIPO List⁶²

We tested a list of 711 sites⁶³ with material related to separatist, military, paramilitary, intelligence, and political organizations (SPMIPO). We found 14 sites completely blocked on both networks, 5 sites completely blocked only on EMIRNET, and 25 completely blocked only on UAEUNET during our testing. Five sites were blocked completely on EMIRNET and partially on UAEUNET, one site was blocked completely on UAEUNET and partially on EMIRNET, two sites were partially blocked only on UAEUNET, and one site was partially blocked on both.

5. CONCLUSION

The United Arab Emirates prevents its citizens from accessing a significant amount of Internet content on a variety of topics. The state combines software-based filtering with manual techniques such as blocking all sites in the Israeli top-level domain and any site with the string “fuck” in its URL. Users who want to see pages related to gambling, Muslims who converted to other faiths, filtering circumvention tools, criticism of Islam, or pornography will likely not succeed. We found that UAE enables the SmartFilter software to block content in similar categories, such as nudity, sex, dating, cults / occult, drugs, and anonymizer / translator. Blocking was frequently broader for English language content than for Arabic language content, which likely results from UAE’s decision to use filtering software from an American company.

ONI also found filtering that demonstrates concern about particular topics, but not a concerted effort to block all access to such materials. These topics include dating (in which area UAE filters English language, but not Arabic language, sites), Middle East-focused gay and lesbian content, the Bahai faith, and some domestic political issues. Interestingly, UAE’s filtering is qualified even in some areas where it appears broad – for example, we found only limited blocking of sites on Judaism or the state of Israel that

⁶¹ EMIRNET also filters a Saudi political opposition site, www.miraserve.com, that is blocked in Saudi Arabia. While Saudi Arabia employs SmartFilter as well, our research indicates that neither URL was blocked due to its SmartFilter categorization. We are unsure how to interpret this finding, which might indicate that the two countries share block lists.

⁶² See Appendix 3 for complete results.

⁶³ Content for some of these sites changed in recent years. We verified content over time using the Internet Archive, available at <http://www.archive.org>.

were not located in the .il top-level domain. We found little blocking of sites on domestic political issues or of news and media sources.

In sum, UAE's broad filtering of Internet sites appears to be primarily based on cultural and religious concerns. Topics sensitive to or forbidden by the practice of Islam are generally inaccessible, while political and news sources remain largely unblocked. UAE's filtering regime is quite effective at blocking content that it seeks to filter, but also suffers from overbreadth, preventing access to a considerable amount of online material that is not related to its expressed goals. Finally, UAE's use of a commercial filtering product, SmartFilter, confirms the growing market for Internet censorship worldwide among states that seek to limit freedom of expression and access to information.

APPENDIX 1**Global List Testing Results**

Category	Number of Sites Tested	Number of Sites Blocked⁶⁴
Alcohol	22	18 UAEUNET only (http://www.jackdaniels.com/ , http://www.webtender.com/ , http://www.bacardi.com/ , http://www.absolut.com/ , http://www.skyy.com/ , http://www.barmeister.com/ , http://www.budweiser.com/ , http://www.millerbrewing.com/ , http://www.jimbeam.com/ , http://www.realbeer.com/ , http://www.heineken.com/ , http://www.guinness.com/ , http://www.winespectator.com/ , http://www.remy.com/ , http://www.absinth.com/ , http://www.moderndrunkardmagazine.com/ , http://www.ginvodka.org/ , http://www.beer.com/), 2 partial UAEUNET (http://www.nbpl.net/ , http://www.plymouthgin.com/)
Anonymizers	21	20 complete (UAE blocks all sites tested except http://darkwing.uoregon.edu/~joe/open-proxies-used-to-send-spam.html)
Blogging Domains	18	0
Drugs	28	2 complete (http://www.pass-any-drug-test.com/ , http://www.the-hive.ws/), 1 partial (http://www.weedtalk.com/), 19 EMIRNET only (http://www.hightimes.com/ , http://www.the-head-shop.co.uk/ , http://www.cannabis.com/ , http://www.marijuana.com/ , http://amphetamines.com/ , http://heroin.org/ , http://www.neonjoint.com/ , http://www.erowid.org/ ,

⁶⁴ A complete block is a site blocked consistently on servers on both networks. A partial block is a site blocked by some servers, but not by others, on both networks. An EMIRNET only block is a site blocked consistently on servers on the EMIRNET network. A partial EMIRNET block is a site blocked by some servers, but not by others, on the EMIRNET network. A UAEUNET only block is a site blocked consistently on servers on the UAEUNET network. A partial UAEUNET block is a site blocked by some servers, but not by others, on the UAEUNET network.

		http://www.mpp.org/ , http://www.overgrow.com/ , http://www.yahooka.com/ , http://www.project420.com/ , http://www.thegooddrugsguide.com/ , http://www.shroomery.org/ , http://bong.com/ , http://www.420.com/ , http://www.everyonedoesit.com/ , http://www.marijuanareform.org/ , http://www.420auction.com/)
E-mail	20	0
Encryption	8	0
Entertainment	27	2 UAEUNET only (http://www.comcentral.com/ , http://www.rollingstone.com/)
Famous Bloggers	22	1 UAEUNET only (http://www.blogsforbush.com/)
Filtering Sites	8	0
Free Web Space	11	0
Gambling	25	23 complete (http://www.gambling.com/ , http://www.carsands.com/ , http://www.4online-gambling.com/ , http://www.poker.net/ , http://www.gamingday.com/ , http://www.homepoker.com/ , http://www.poker.com/ , http://www.onlinecasino.com/ , http://www.planetpoker.com/ , http://www.pokerroom.com/ , http://www.allcraps.com/ , http://www.gamblingnewsletter.com/ , http://www.roulette.sh/ , http://www.ildado.com/ , http://sportsgambling.about.com/ , http://www.casinogamblingexposed.com/ , http://www.blackjack-gambler.com/ , http://www.bjmath.com/ , http://www.blackjackplaza.com/ , http://www.keno-info.com/ , http://www.blackjackinfo.com/ , http://www.onlinegamblingtips.com/ , http://www.simslots.com/), 1 partial (http://www.online-keno.com/)
Gay / Lesbian / Bisexual / Transgender / Queer Issues	38	6 complete (http://gaytoday.badpuppy.com/ , http://lesbians-against-violence.com/ , http://www.bisexual.org/ , http://www.gay.ru/ , http://www.lesbian.org/ , http://www.gayegypt.com/),

		2 EMIRNET only (http://www.al-fatiha.net/ , http://www.gaycenter.org/), 2 UAEUNET only (http://www.queernet.org/ , http://transsexual.org/), 1 UAEUNET partial (http://www.tsroadmap.com/)
Government	56	3 EMIRNET only (http://www.idf.il/ , http://www.mfa.gov.il , http://www.knesset.gov.il/)
Groups (including Usenet)	18	1 UAEUNET only (http://www.usenet.com/)
Hacking	20	6 complete (http://www.cultdeadcow.com/ , http://www.hackinthebox.org/ , http://www.hackcanada.com/ , http://www.nmrc.org/ , http://www.hoobie.net/ , http://www.malware.com/), 1 UAEUNET only (http://www.hacktivism.com/)
Hate Speech	25	2 complete (http://www.sdlusa.com/ , http://www.resistance-radio.com/), 18 UAEUNET only (http://www.kkk.com/ , http://www.natall.com/ , http://www.skrewdriver.net/ , http://www.martinlutherking.org/ , http://www.bhbulgaria.com/ , http://www.thebirdman.org/ , http://www.blacksandjews.com/ , http://www.jewwatch.com/ , http://www.duke.org/adl/index.html , http://www.ibiblio.org/nge/ , http://www.armyofgod.com/ , http://www.nationalist.org/ , http://www.nationalvanguard.org/ , http://www.nsm88.com/ , http://www.godhatesfags.com/ , http://www.homosexissin.com/ , http://www.stormfront.org/ , http://www.americannaziparty.com/), 1 partial UAEUNET (http://www.skinheadz.com/)
Human Rights	26	0
Humor	18	2 complete (www.collegehumor.com , www.crazyshit.com), 1 EMIRNET only (www.ebaumsworld.com), 11 UAEUNET only (http://www.ahajokes.com/ , http://www.jokes.com/ , http://www.the-jokes.com/ , http://www.jokesgallery.com/ , http://justjoking.com/ , http://www.lotsofjokes.com/ ,

		http://www.jokesgalore.com/ , http://www.bestofhumor.com/ , http://www.dirtyjokesinc.com/ , http://www.funnyjokes.com/), 1 partial UAEUNET (http://jokes.justlaugh.com/misc.php)
Major Events	29	1 complete (http://www.tribo.org/nanking/), 1 partial UAEUNET (http://www.vietnampix.com/)
Miscellaneous	10	1 complete (www.arabtimes.com)
News Outlets	35	1 EMIRNET only (http://www.haaretz.co.il/)
Porn	35	35
Provocative Attire	17	3 complete (http://www.lingerie.com/ , http://www.panties.com/ , http://www.exoticfashionmall.com/), 9 UAEUNET only (http://www.freshpair.com/ , http://www.spikybras.com/ , http://www.figleaves.com/ , http://blueskyswimwear.com/ , http://www.hanes.com , http://www.trashy.com/ , http://www.abcunderwear.com/ , http://www.victoriassecret.com/ , http://www.venusswimwear.com/), 2 UAEUNET partial (http://www.bodylingerie.com/ , http://www.lingeriebowl.com/)
Religion (fanatical)	9	2 complete (http://www.ikhwanonline.com/ , http://www.hinduunity.com/), 3 UAEUNET only (http://www.k-k-k.com/ , http://www.kkk.com/ , http://www.kahane.org/)
Religion (normal)	50	1 UAEUNET only (http://www.answering-christianity.com/), 3 EMIRNET only (http://www.aish.com/ , http://www.bahai.org/ , http://www.bahai.com/)
Search Engines	28	2 EMIRNET only (http://www.maven.co.il/ , http://www.hareshima.co.il/)
Sex Education	28	2 complete (http://www.teensource.org/ , http://www.sexhealth.org/), 12 UAEUNET only (http://www.siecus.org/ , http://www.scarleteen.com/ , http://www.sfsi.org/ , http://www.plannedparenthood.org/ , http://www.positive.org/ , http://www.premaritalsex.info/ ,

		http://www.ultimatebirthcontrol.com/ , http://www.gmhc.org/ , http://www.sxetc.org/ , http://www.sieccan.org/ , http://www.advocatesforyouth.org/ , http://www.teenpregnancy.org/), 1 partial UAEUNET (http://survive.org.uk/)
Translation Sites	13	1 complete (http://translation.langenberg.com/)
Universities	32	1 EMIRNET only (www.huji.ac.il)
Weapons / Violence	28	4 UAEUNET only (http://www.smithwesson.com/ , http://www.hecklerkoch-usa.com/ , http://www.zmweapons.com/ , http://www.uws.com), 1 partial UAEUNET (http://www.collectiblefirearms.com/)
Women's Rights	27	2 complete (http://www.feminista.com/ , http://www.igc.apc.org/Womensnet/dworkin/)
Total	752	EMIRNET = 140 complete + 2 partial (18.9%), UAEUNET = 191 + 12 partial (27.0%), both networks = 108 + 2 partial (14.6%)

APPENDIX 2**High-Impact List Testing Results**

Category	Number of Sites Tested	Number of Blocks on EMIRNET	Number of Blocks on UAEUNET
Anti-Islam	9	9	0
Anti-Pornography ⁶⁵	1	0	1
Bahai	3	2	0
Business	1	0	0
Dating	13	12	11
Drugs	6	5	0
Entertainment	2	0	2
Extremist	2	0	2
Feminism	1	0	0
Free Expression	1	0	0
Free Web Hosting	2	0	0
Gambling	9	9	9
Hacking	9	8	8 + 1 partial
Hate	2	0	2
Human Rights	3	1	0
Israel ⁶⁶	11	10	0
Jihad	2	0	0
News	2	1	1
Politics	2	0	1
Pornography	9	9	8 + 1 partial
Potential Overblocking ⁶⁷	1	1	1
Religion	5	0	0
Religious Conversion	1	0	1
Sexuality	10	9	7
Social Networking	1	0	1

⁶⁵ This site, www.xxxchurch.com, labels itself the “#1 Christian porn site,” but states that “Our mission is to make people aware of all the issues about porn and for Christians to be accountable and to get their crap cleaned up. We also want to help and give hope to those who feel like there is no way out and are drowning in porn.” See <http://www.xxxchurch.com/gettoknow/faqs.asp>.

⁶⁶ Of the 10 Israel sites tested, eight were in the .il domain, one was in the .com domain, and one was in the .org domain.

⁶⁷ We tested the site www.thestarfuckers.net, a rock band’s site, to determine whether UAE blocks content based solely on the words in a site’s domain name.

Technology ⁶⁸	3	0	0
Translation	1	1	0
United States Government	1	0	1
Total	113	77 (68.1%)	56 + 2 partial (51.3%)

⁶⁸ This category includes one ISP site, one site offering free Internet mailing lists, and one site advertising that the domain name is for sale that previously offered radar detectors. We verified the content of this site, www.rawa.com, using the Internet archive at www.archive.org and the WorldLingo translation site at <http://www.worldlingo.com/wl/translate>.

APPENDIX 3**SPMIPO List Testing Results**

Site	UAEUNET Result	EMIRNET Result
http://www.in2zw.com/mdc/index.htm	Unblocked	Blocked
http://west_bengal.tripod.com	Unblocked	Blocked
http://www.baikal.net/	Unblocked	Blocked
http://qoqaz_french.tripod.com	Unblocked	Blocked
http://www.haganah.org.il/	Unblocked	Blocked
http://www.stormfront.org/	Blocked	Unblocked
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http://www.qassam.org/	Blocked	Blocked
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http://www.khalistan.com	Blocked	Partial
http://www.kargilonline.com/	Blocked	Partial
http://www.mehzavod.ru/	Blocked	Partial
http://www.dkp.de/	Partial	Blocked
http://www.palana.ru/	Unblocked	Partial
http://www.hebron.com/	Unblocked	Partial
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APPENDIX 5

United Arab Emirates Background

A. General Description

Occupying a small area of land at the southeast corner of the Arabian Peninsula, the United Arab Emirates has become among the most highly developed nations in the Middle East region. The UAE incorporated itself as a federation first in 1971 after more than a century of British rule.⁶⁹ Its population of 4 million is 80% expatriates (only 20% are UAE citizens⁷⁰) and mostly Muslim (96 percent), with small Christian and Hindu minorities.⁷¹ The UAE derives much of its wealth from oil; it is a central member of OPEC.⁷² Despite this heavy dependence on petroleum, the UAE has begun to move towards free trade policies, with numerous special economic zones promoting various forms of industry.⁷³

B. Political System

The UAE is a federation composed of seven different emirates, or small principalities. The state is governed by a constitution that was adopted provisionally in 1971 and made permanent in 1996. The emirates are not ruled democratically.⁷⁴ Each emirate provides one representative to the Supreme Council of Rulers, which governs the state.⁷⁵ The Supreme Council of Rulers elects the UAE president and vice president; in practice, the president is always the ruler of Abu Dhabi (one of the emirates) and the vice president is the ruler of Dubai.⁷⁶ The president is the head of state and commander-in-chief of the armed forces.⁷⁷ The Supreme Council elects the Council of Ministers, which acts as the cabinet and is headed by the prime minister. The Federal National Council⁷⁸, with 40 members appointed by the ruling bodies of the emirates, acts as a quasi-legislative body, though it can only review legislation referred to it by the Council of Ministers.⁷⁹ The current ruler is Sheikh Khalifa bin Zayed al-Nahyan. Political parties are not permitted in UAE.⁸⁰ Political opposition is minimal, partly because the ruling families of the

⁶⁹ U.S. Department of State, *Background Note: United Arab Emirates*, at <http://www.state.gov/r/pa/ei/bgn/5444.htm> (Nov. 2004).

⁷⁰ U.S. Department of State, *Background Note: United Arab Emirates*.

⁷¹ CIA, *The World Factbook: United Arab Emirates*, at <http://www.cia.gov/cia/publications/factbook/geos/ae.html> (Nov. 30, 2004).

⁷² The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004* (Nov. 14, 2004).

⁷³ See *United Arab Emirates Yearbook 2004: Economic Development 100*, available at http://www.uaeinteract.com/uaeint_misc/pdf/English/Economic_Development.pdf.

⁷⁴ U.S. Department of State, *Background Note: United Arab Emirates*.

⁷⁵ The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

⁷⁶ The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

⁷⁷ The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

⁷⁸ See Federal National Council at <http://www.almajles.gov.ae/eindex.asp>.

⁷⁹ The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

⁸⁰ U.S. Department of State, *Background Note: United Arab Emirates*.

emirates are popular and partly because expatriates who engage in dissent face deportation.⁸¹ In practice, important decisions are made not by UAE's political institutions, but by the rulers of emirates.⁸²

The UAE legal system is federal in nature, comprised of both emirate-level and federal-level laws.⁸³ The federal legal branch is headed by the Federal Supreme Court, which adjudicates disputes between emirates or between an emirate and the federal government, and also passes on the constitutionality of federal legislation.⁸⁴ Judges are appointed by the president.⁸⁵ The federal judicial system also includes the Courts of First Instance.⁸⁶

⁸¹ The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

⁸² The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

⁸³ See generally Nathan J. Brown, *Arab Judicial Structures: A Study Presented to the United Nations Development Program*, at <http://www.pogar.org/publications/judiciary/nbrown/uae.html>.

⁸⁴ The Economist Intelligence Unit, *Country Profile: United Arab Emirates 2004*.

⁸⁵ CIA, *The World Factbook: United Arab Emirates*.

⁸⁶ See Ministry of Culture and Information, *UAE Government: Political system*, at http://www.uaeinteract.com/government/political_system.asp#E.