

Iranian Internet Infrastructure and Policy Report

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INTRODUCTION

// The National Information Network or SHOMA is by far the most high-profile and controversial project of the Iranian Information and Communications Technology (ICT) Ministry. It has been in development since 2006, and since then it has garnered a great deal of attention from Iranian citizens, world governments, and the global media. The press has been very occupied with the implications of SHOMA (also known as the ‘National Internet’, ‘National Intranet’, or the ‘Halal Internet’) for Iranian web users, with an assortment of articles from the [BBC](#), [The Guardian](#), and [al Jazeera](#) attempting to shine some light on SHOMA’s development processes, its intended aims, and the likelihood of the project’s success.

We feel that it is necessary to provide a more comprehensive overview of the SHOMA project, in order to outline clearly what the government’s objectives are in establishing it, to comprehensively explain how the network will be structured, and to build a picture of the consequences its development will have on Iranian Internet users.

This month’s report will also take in all the latest news about infrastructural developments in Iran’s Internet, government policy updates, and a run-down of the most recent high-profile Cyber Police (FATA) arrests and online filtering initiatives.

THE NATIONAL INFORMATION NETWORK (SHOMA)

WHAT IS SHOMA?

Mahmoud Vaezi, Iran's ICT Minister, offered a brief description of SHOMA in August 2013. In his statement, he described the central features of the SHOMA network:

- SHOMA is a network not unlike the Internet - its infrastructure consists of switches, routers and data centers. If users request data located on a data center inside the country, their traffic will not leave the country, and will remain inside the network.
- SHOMA is intended to be a private and secure internal network.
- SHOMA is an aggregation of private, local and national networks, and will be comprised of two segments: private and public. The private component of SHOMA will be used for communication and the transfer of data between governmental organisations. The public component will allow standard users to make use of public services.
- SHOMA is not in competition with the Internet; Iran is not cutting Iranian users' access to the 'global' Internet. If users cannot find the data that they are looking for on SHOMA, then they will be able to access the Internet to search for it, instead.
- Users will be able to make use of high-speed, low-cost connections to access data using SHOMA, as well as a number of major foreign websites, such as Google and Yahoo.

HISTORY OF SHOMA

The initial plans were laid for SHOMA's development in the first quarter of 2006, with the Iranian government stating that it wished to see a reduction in Iran's dependence on the Internet. According to the [Information Technology Organisation of Iran \(ITO\)](#), the Cabinet approved a plan that would see SHOMA scheduled for launch within three years - by 2009/10.

A year later, the Iran Telecom Research Center (ITRC) was granted responsibility for designing and launching the SHOMA network. After four years of development, 'SHOMA' was selected as the official name of the project in [Iran's Fifth Five-Year Plan \(2011-2016\)](#), which will conclude on 19 March 2016. This plan calls for 60% of Iranian families and all Iranian businesses to be connected to SHOMA by March 2016.

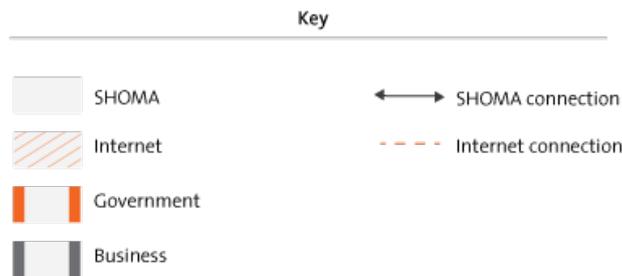
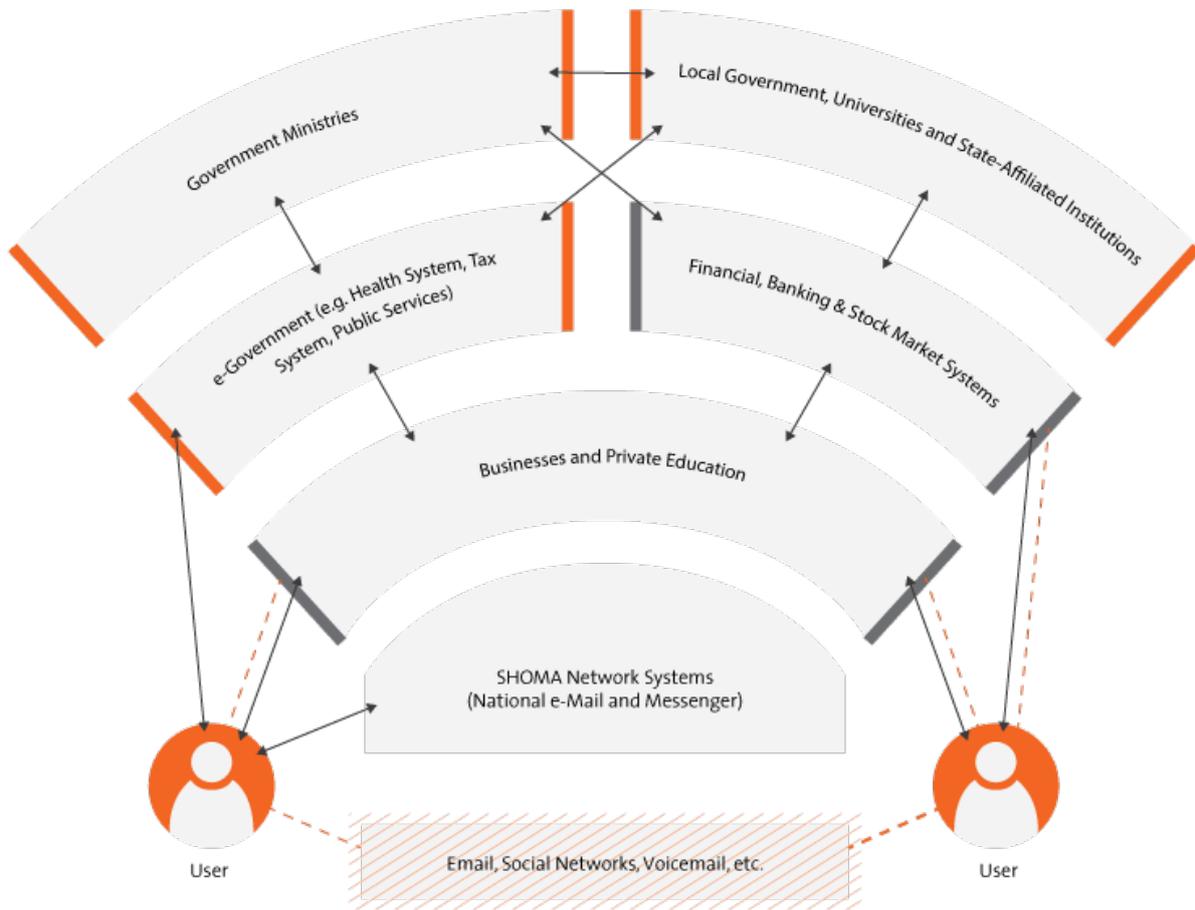
Alongside a lengthy and troubled development process has come a chronic uncertainty over the project's official name, which has been changed no less than five times. Though the project started life as the 'National Internet', it later became the 'National Intranet', and then the 'Halal' or 'Clean' Internet. It is not precisely clear why Iran has seen fit to rebrand SHOMA on so many separate occasions, though it seems the government was keen to assuage the nervousness of Iranian users

who believed that the establishment of a 'National Internet' would result in the disconnection of Iran from the World Wide Web.

STRUCTURE OF SHOMA

According to the ITO, the SHOMA network will manage all communication between Iran's governmental and state-affiliated bodies - from ministries, to local government organisations, to universities. The establishment of this SHOMA network would not preclude Iranian users from accessing the global Internet, however - users will be able to make use of the Internet and SHOMA simultaneously.

[Chart I] shows the planned structural model for SHOMA, demonstrating the ways in which user access to state-affiliated bodies and government ministries will be mediated through e-Government systems and the private sector, in order to maximise the security of government systems:



[Chart I] - Proposed Structure of SHOMA

As [Chart I] shows, users will only be able to make use of their Internet connections to access websites located on the global Internet. When accessing sites hosted inside Iran, users will automatically use their SHOMA connection. Users are also being encouraged to use state-managed communications systems (email, messenger services), rather than popular alternatives from the global Internet.

OBJECTIVES OF SHOMA

It is intended that SHOMA will emerge as the primary system of Iran's information and telecommunications infrastructure. The government's objectives in developing SHOMA are:

- To promote the expansion of e-Government and online service provision
- To reduce Iran's dependence on the global Internet
- To expand Iranian and Islamic content and improve the public's digital knowledge
- To facilitate the expansion of e-Commerce
- To increase the security of Iranian cyberspace

In addition to these broad objectives, the Iranian government set out some more concrete targets for SHOMA to attain by the conclusion of its **Fifth Five-Year Plan (2011-16)**:

- Iranian users should have access to a 20Mbps connection when using SHOMA
- 80% of payments should be made online
- 100% of intra-governmental services should be conducted online
- 60% of families and businesses should be connected to both SHOMA and the Internet
- Iran is to be ranked as #2 regionally in terms of bandwidth per capita, as well as improving its position dramatically on other major ICT indexes
- The ICT industry should comprise 2% of GDP
- All organisations and national institutions should be connected to SHOMA
- Attain a moderate rise in GDP through increasing bandwidth in Iran

CONTRIBUTORS TO SHOMA

According to the ITO, at least 24 governmental bodies and private companies have been working on SHOMA's development. These groups include:

- ICT Ministry
- Communications Regulatory Authority of Iran (CRA)
- Telecommunication Infrastructure Company (TIC)
- ITO
- Ministry of Science, Research and Technology
- Iranian Parliament
- Islamic Republic of Iran Broadcasting (IRIB)
- WiMAX operators
- Internet Service Provider (ISP) operators

SHOMA VS. THE INTERNET

SHOMA has emerged as one of the most controversial and high-profile development projects in Iran today, especially in the wake of the tumultuous 2009 presidential elections, after which the political potential of the Internet became more clearly apparent. The global media has been noisily speculating over the possibility of Iran being 'sealed off' from the Internet, and its users isolated from the global online community.

Yet the ITO claims that SHOMA will not cut Iranians' access to the Internet, but will rather improve users' browsing experience, as Iranians will be able to browse local and governmental websites at far higher speeds than they are currently used to; SHOMA will operate parallel to the Internet, as a high-speed corridor to access the sites deemed most important (and least controversial) by the government.

But this system is not without significant drawbacks for Iranian users - the development and maintenance of SHOMA will allow the government to throttle Internet access during periods of political dissent without crippling SHOMA-rooted critical infrastructure services such as banks, airports, and universities.

So although its eventual development may result in lessened frustrations for a large number of Iranian users looking to make use of local and government online services, the development of SHOMA will simultaneously equip the Iranian government with a powerful new means of smothering political dissent online.

DEVELOPMENT AND LAUNCH

SHOMA is scheduled for launch in March 2016, although its numerous development phases are scheduled to be completed before this stage. Authorities have set a number of launch dates for the SHOMA project, all of which have been missed, so far:

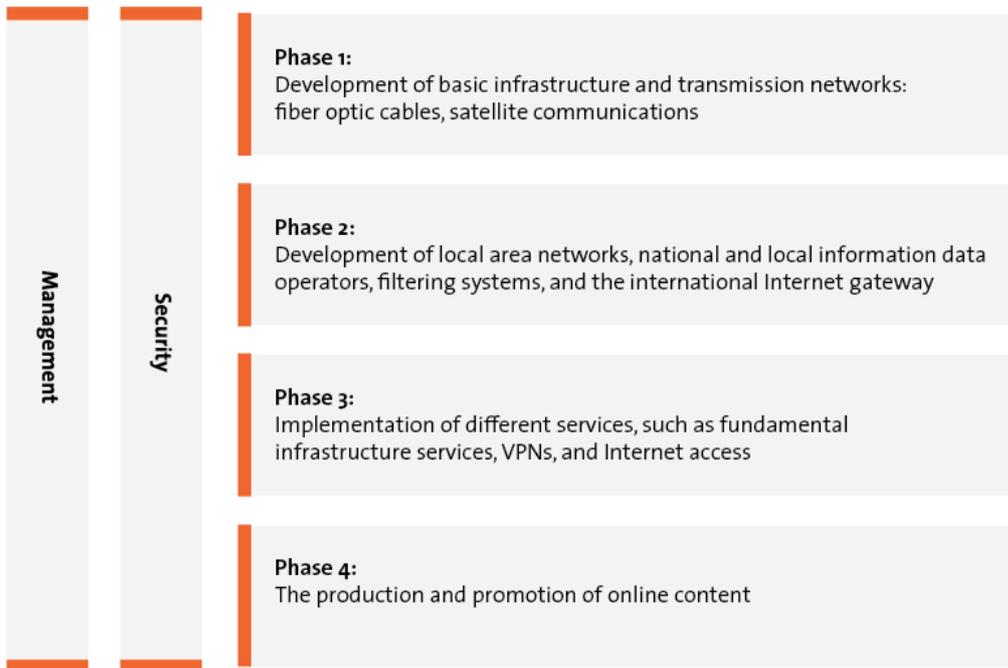
- Mohammad Soleimani, former ICT Minister in the first Ahmadinejad's government, **said** that SHOMA would launch in **September-October 2006**.
- Reza Taghipour, **announced** the first phase of SHOMA would conclude in **May-June 2012**.
- Reza Taghipour, former ICT Minister in the second Ahmadinejad's government, **said** that SHOMA would launch in **August-September 2012**.
- Ali Hakim Javadi, former deputy of the ICT Minister in the second Ahmadinejad's government, **stated** that SHOMA would launch in **February-March 2013**.
- Hakim Javadi **announced** that SHOMA would be ready for delivery to Iranians in **June 2013**.

The SHOMA network does appear to have entered a limited trial stage, however; **Small Media published an article in April 2013** which found some evidence of increased Internet speeds for users visiting certain domestic websites:

"All these signs seem to indicate that Iran's 'Halal Internet' has finally launched and is functioning rather more effectively than many had expected.

As we monitor the internet situation in Iran, we see that users inside the country can easily access domestic websites such as banks or news agencies. The problem arises when these users seek to connect to the external internet via VPN, Tor or other such circumvention tools."

SHOMA's development has been a complicated and convoluted process, and it has often been hard to gain an understanding of exactly what work is being undertaken. The **ITO has released a graphic [Chart II]** showing the numerous development phases of the SHOMA project - it seems as though the government is currently implementing phase two of the development plan, given the ongoing establishment of local data centers **highlighted in our report from last month**.



[Chart II] - SHOMA Development Plan

SHOMA’S BUDGET

According to the ICT Ministry’s official budget, Iran will invest 12,300,000 million IRR (494.2 million USD) into SHOMA, although it is not clear exactly how the Ministry will allocate this budget in the development of the network.

As we [discussed in our January report](#), the Rouhani government is moving towards the outsourcing and privatisation of SHOMA. The rationale for this move is unclear, though it is possible that the government sees this as a way of improving efficiency in the development project, given the looming March 2016 deadline.

SHOMA DEVELOPMENT UPDATES

- **September 16, 2013:** Ali Hakim Javadi, the deputy minister of ICT, announced that the first group of home users has been connected to the Intranet, and that their Internet access will be separated from SHOMA access. In his interview with Fars News, Javadi said that 400,000 users are being connected to SHOMA, with their bandwidth set at 2MBps. ([Source](#))
- **October 23, 2013:** Mehdi Saremi, Director of the Cyber Activist Assembly of the Islamic Revolution (FARA), said that SHOMA has the potential to create 90,000 job opportunities in Iran and save \$300 million USD. ([Source](#))
- **January 19, 2014:** Nasrollah Jahangard, the Director of ITO, announced that China will assist Iran in the development of SHOMA. It is not yet clear what role China will play in assisting in SHOMA’s development. ([Source](#))

CONTENT FILTERING AND BLOCKED SITES

MARCH 4:

FATA (South Khorasan Province) arrested an individual for hacking the Telecommunication Company of Iran's (TCI) ADSL connections. According to FATA, the hacker learned how to hack into the TCI from a school friend, who explained how the company encrypts its ADSL accounts. ([Source](#))

MARCH 8:

Facebook was unblocked for several hours in at least one city (Poldokhtar) and two provinces (Hamedan and Kerman). The cause of this is unclear, however it likely came as the result of a technical glitch. ([Source](#))

MARCH 11:

Facebook was unblocked for a few hours in Mako, in West Azerbaijan Province. ([Source](#))

MARCH 16:

Alef, a news website close to the conservative MP Ahmad Tavakoli, claimed that Iranian users spend at least 160,000,000,000 IRR (6,267,873 USD) per month on VPNs used to bypass the filtering system in Iran. ([Source](#))

MARCH 19:

FATA (Alborz Province) removed a number of websites selling explosive materials. According to FATA, 20,748 kinds of materials worth 40,000,000 IRR (1570 USD) were seized. ([Source](#))
Some Iranian WhatsApp users reported that the service was blocked, however, Iranian authorities denied this. ([Source](#))

MARCH 22:

A number of Iranian IT websites reported that WhatsApp may have been blocked by the Commission to Determine the Instances of Criminal Content (CDICC), although the ICT Minister refuted this claim. At the time of writing this report, WhatsApp is still available for use by Iranians. ([Source](#))

MARCH 30:

Internet users in seven cities in southern Kerman Province faced problems with their Internet connections. According to Mohammad Dost Mohammadi, TCI Director in Kerman Province, the problem was due to a failure in two servers providing Internet access in Kerman. ([Source](#))

POLICY DEVELOPMENTS

MARCH 4:

Alireza Salehi, Director of the FATA Commission of Computer Associations (Tehran Province), stated that the importation of anti-malware software is permitted, but stated that all companies wishing to import such software should obtain permission from the ITO, and that all governmental bodies should obtain their security software through the ITO. ([Source](#))

Ali Asghar Ansari, deputy of ITO, announced the government is working on data center and data hosting regulations to organise the market in Iran. According to Ansari, 15 companies are currently offering hosting services. ([Source](#))

MARCH 8:

The Supreme Council of Cyberspace (SCC) developed a structural plan for Iranian cyberspace, dividing its proposed policies into three sections: service provision, content and infrastructure. The SCC has not published the details of its plan at the time of writing. ([Source](#))

STATEMENTS FROM MINISTRIES AND POLITICIANS

MARCH 2:

Ali Jannati, Iran's Minister of Culture and Islamic Guidance, stated that around 4 million Iranians use Facebook, and 71% of Tehranis watch satellite channels such as BBC Persian or Manoto. Jannati reiterated that the government has no desire to restrict citizens' access to information, and suggested that Facebook might be unblocked in the near future. ([Source](#))

Vaezi took part in an interview with the Spanish newspaper *La Vanguardia*, whilst visiting Barcelona for the [Mobile World Conference](#). In the interview, Vaezi made a number of interesting public statements:

- He said that the Rouhani government's main priority in Internet policy is the expansion of high speed Internet access.
- Vaezi also asserted that the ICT Ministry has developed a plan to increase Iran's Internet bandwidth by ten-fold in the next year.
- The planning phase of the SHOMA project has been completed, and the infrastructure development phase is underway.
- Vaezi denied knowledge of the incident on [16 September 2013](#) in which Facebook was briefly unblocked, then falsely claimed that most Iranians are able to open Facebook and Twitter without any restrictions.
- Vaezi contested the Reporters Without Borders (RSF) '[Enemies of the Internet 2014](#)' report, which listed Iran as an enemy of the Internet. He argued that if Iran was an enemy of the Internet, then it would not have been in attendance at the Mobile World Congress. ([Source](#))

MARCH 3:

Abdolsamad Khoramabadi, Secretary of CDICC, reacted to Jannati's statement of the previous day, asserting that the government currently has no plans to ease or lift the current restrictions on Facebook. Khoramabadi also denied Jannati's claim that 4 million Iranians are currently active on Facebook. ([Source](#))

Mohammad Hassan Entezari, Secretary of the SCC, said that there are 40 separate organisations and governmental bodies involved in formulating ICT policy. He also noted that 67% of Iranian hosting companies have used foreign hosts for their services. Additionally, Entezari stated that 95% of Iranians are regular users of non-Iranian email services such as Yahoo and Gmail. ([Source I](#), [Source II](#))

Ali Asghar Amidian, director of the CRA said around 80% of Iranian families have been using ADSL. Small Media has found no evidence to support this claim. ([Source](#))

Seyyed Hassan Hashemi, Iran's Minister of Health and Medical Education has launched an official website at hhashemi.com. According to his opening post, the Minister established the site as a means of engaging in more direct communication with Iranian citizens. ([Source](#))

MARCH 4:

Mahmood Golzari, the Deputy of Youth Affairs in the Ministry of Youth Affairs and Sports, announced that all dating websites and institutions in Iran are illegal, and that Iranian authorities are moving to take action against them. (Source)

Seyyed Zia Hashemi, the Cultural and Social Deputy at the Science, Research and Technology Ministry, suggested that Iranian universities should unblock Facebook, because it offers a unique opportunity to open up engagement with the world. Additionally, he announced that research conducted by Iran's Supreme Leader Office indicates that around 60% of Iranian university students use mobile messaging apps such as Viber and WeChat (Source)

Morteza Barari, Deputy Government and Parliamentary Affairs Minister in the ICT Ministry, said that the income of the TCI and its subsidiary MTC hit 90,000 billion IRR (3.53 billion USD) in the past Iranian year. (Source)

COMPANY NAME	INCOME IN BILLION IRR (BILLION USD)
Mobile Telecommunication Company of Iran (MTC)	61,000 (2.39)
Landline (Telecommunication Company of Iran)	29,000 (1.13)
MTN Irancell	43,000 (1.68)
Other operators (e.g. Rightel)	7,000 (0.27)

The Digital Media and Information Technology Center (SARAMAD) announced the launch of a new app store designed as an Iranian alternative to iTunes and Google Play. According to Mehr News, this app store will have two important features - a safe and user-friendly app store, and greater support for Iranian app and content producers. Although SARAMAD claims that the platform has been launched, its name and address are both unspecified. Small Media has subsequently been unable to find any evidence of such a platform existing. (Source)

MARCH 9:

The Ministry of Petroleum (MoP) opened social media accounts on [Twitter](#), [Facebook](#), [YouTube](#) and [Aparat](#). (Source)

MARCH 12:

Saeid Mahdavian, deputy of the Regulatory Authority at the National Cyberspace Center (NCC), said that Iran will start regulating the virtual currency Bitcoin by the end of 1393 (March 2015). (Source)

MARCH 14:

Ali Sepehri Rad, Deputy Director of the TCI, announced that the cost of Internet access for end users would fall by 20% by the end of 1393 (March 2015). (Source)

Entezari had a press conference due to the anniversary of the SCC founding. In this press conference he talked about different things which the following points are highlighted ones:

- Only 40% of Iranian government websites are hosted in the country, with the US, Canada, the UK and Germany hosting many of the others. The majority of private websites are hosted outside Iran

as well. Previously, Iran announced that 95% of Iranian government websites were hosted in Iran.

- 80% of Iranian users' total activities on the Internet are on locally-hosted websites, and as such SHOMA will reduce the cost of browsing for users.
- The SCC would not like to make policies on specific subjects such as VPN access, because the SCC is responsible for general policies rather than specific ones.
- A cultural-social workgroup has been working to develop a social networking policy to see how social networks could be utilised in a proper way by Iranian users.
- The filtering software is not comprehensive and Iran needs to change its methods. Iran should implement more intelligent filtering methods as used in other countries. (Source)

MARCH 15:

Hojatoleslam Moheyyedin Bahram Mohamadian, director of Research & Planning Department at the Education Ministry, announced the 'student email' will launch in 1393 (2014/15) and in the first phase, more than 500,000 students will join it. (Source)

Seyyed Mohsen Erfani, Chief of FATA (Razavi Khorasan Province) claims that WeChat and Viber have been one of the largest contributing factors to divorce amongst Iranian families. (Source)

MP Hamidreza Tabatabaei Naeini, vice-chairman of the Parliamentary Judicial and Legal Commission, stated that ministers should not use Facebook while it is blocked in Iran. At the same time, he said that the use of Facebook is legal in Iran, as there is no existing legislation that criminalises its use. (Source)

Seyyed Kamal Hadianfar, Chief of FATA, released a report summarising FATA activities in the last Iranian year (1392). The report made a number of interesting claims:

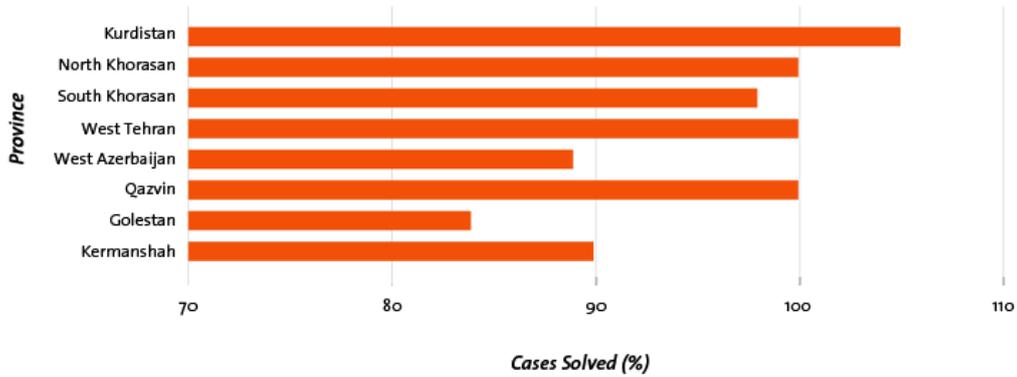
- FATA tracked down 80% of cyber crimes
- 49.5% of total cyber crimes were unauthorised transactions utilising methods such as phishing and credit card fraud. The root causes of such crime has been human error on the part of victims, and a general lack of security knowledge amongst Internet users.
- FATA closed down 300 gambling websites in the last Iranian year.
- FATA has arrested three high-profile cyber criminals who stole more than 18 billion IRR (700,000 USD), and 60 drug dealers who sold illegal drugs through the Internet. (Source)

MARCH 16:

Ali Larijani, chairman of Iran's Parliament, said that the Supreme Council of Cyberspace (SCC) is the group responsible for making a decision about the blocking of sites and wervices such as Facebook and WeChat. In addition, Larijani announced that he does not maintain any social media accounts, whether on Facebook, Twitter, or Instagram. (Source)

MARCH 19:

A number of provincial FATA branches released evaluations of their work in 1392. [Chart III] shows the percentage of cases they claim to have solved. These figures appear to have been inflated somewhat, with FATA in Kurdistan's 105% success rate in pursuing cases particularly striking: ([Source I](#), [Source II](#), [Source III](#), [Source IV](#), [Source V](#))



[Chart III] - FATA cases solved, by province

MARCH 25:

Vaezi announced that the improvement of Iranian Internet speeds will take at least 18 months to complete. He also requested that Iranian ISPs should change their sharing ratio from 20:1 to 8:1. ([Source](#))

MARCH 26:

Vaezi announced the exclusive right of Rightel for 3G will terminate in 22 August 2014 and other operator can offer 3G to their customer from September 2014. ([Source](#))

MARCH 29:

The Islamic Development Organisation (IDO) launched a dating website premised on Islamic values. [Hamsan](#) is free to join, and encourages users to find potential marriage partners. ([Source](#))

MARCH 30:

Hamidreza Moghadamfar, Cultural Deputy of Iranian Revolutionary Guard Corps (IRGC), said that Iranian authorities should focus on developing authentic Islamic and Iranian lifestyles instead of unblocking Facebook. ([Source](#))

MARCH 31:

According to Mehr News Agency, the TCI's turnover was 110,000 billion IRR (4.3 billion USD), and it launched 1,614 projects in 1392. ([Source](#))

CIVIL SOCIETY, PROFESSIONAL ORGANIZATION STATEMENTS

MARCH 15:

Farshad Jafarian, a member of Iran's Computer Union, said the Internet situation in Iran is disastrous, and authorities just have been content with talking, instead of acting to improve the situation. ([Source](#))

MARCH 31:

Samsung opened up its app store - Samsung Apps - to Iranian users from 28 March 2014. Last year, Samsung blocked access of Iranians to its store due to sanctions against Iran on 22 May 2013. According to one of the Samsung employees in Iran, Samsung has opened its store permanently and its decision will not be reversed. ([Source](#))