

TRA/aeDA Background

The aeDA was established in 2007 by the Telecommunications Regulatory Authority of UAE (TRA) as a department. It is the Regulatory Body and Registry Operator for the .ae domain name.

The aeDA is responsible for the setting and enforcement of all policies with regard to the operation of the .ae ccTLD as well as overseeing the operation of the Registry System.

The aeDA's role is to:

- Develop and execute policy
- Grow, develop and market the .ae namespace
- Accredite and manage .ae Registrars
- Educate the public, delivering and promoting the .ae domain name
- Facilitate the .ae Dispute Resolution Policy
- Represent .ae at International Forums

As the aeDA has been formed by the TRA, a federal government department, the aeDA will continually strive to maintain best practice for the administration of the .ae ccTLD and will administer the .ae domain in a fair and transparent manner.

Changes in the Technical Operation of the .ae ccTLD:

The aeDA brought changes to the ae ccTLD in order to bring it in line with international best practices. The aeDA introduced the 'Registry - Registrar Model' into the .ae ccTLD, to provide clarity of the roles within the industry, and to introduce competitive pricing, and service models for Registrants.

.ae Registry-Registrar Model

The roles of aeDA Industry are as follows:

Regulatory Body – aeDA

The organisation vetted with the responsibility of operating the ccTLD for the benefit of all stakeholders.

Registry Operator – aeDA

Has the exclusive responsibility for maintenance of a centralised Registry for its particular TLD. The Regulatory Body and Registry Operator in some instances may be separate organisations, however in the case of the .ae ccTLD, the aeDA will assume both roles.

Accredited Registrars

A person or entity that, via a contract with the Registry provides front-end registration services to Registrants. These services form the public interface to Registry services.

Resellers

Some Registrars use Resellers to provide customer sales and services. Resellers buy domain names and manage domain name records for their customers through an interface with their Registrar. Resellers do not have direct access to the Registry.

Registrants

The individual or organisation that registers a specific domain name. This individual or organisation holds the right to use that specific domain name for a specified period of time, provided certain conditions are met and the registration fees are paid. This person or organisation is the "legal entity" bound by the terms of the relevant service agreement with the Registry operator for the TLD in question.

Launching and Re-launching TLD Registries

aeDA has supported (and continues to support) the launch and re-launch of a number of Top Level Domains, including organizational and policy development, preparation and execution of marketing and communications plans, technical implementation and operational management and support.

TLD Re-launches

TLD	Country	Details
.ae	United Arab Emirates	Re-launched with second-level registrations 2008

New TLD Launches

TLD	Country	Details
.امارات (.emarat)	Arabic script IDN ccTLD for UAE	Launched 2010

Internationalised Domain Name Experience

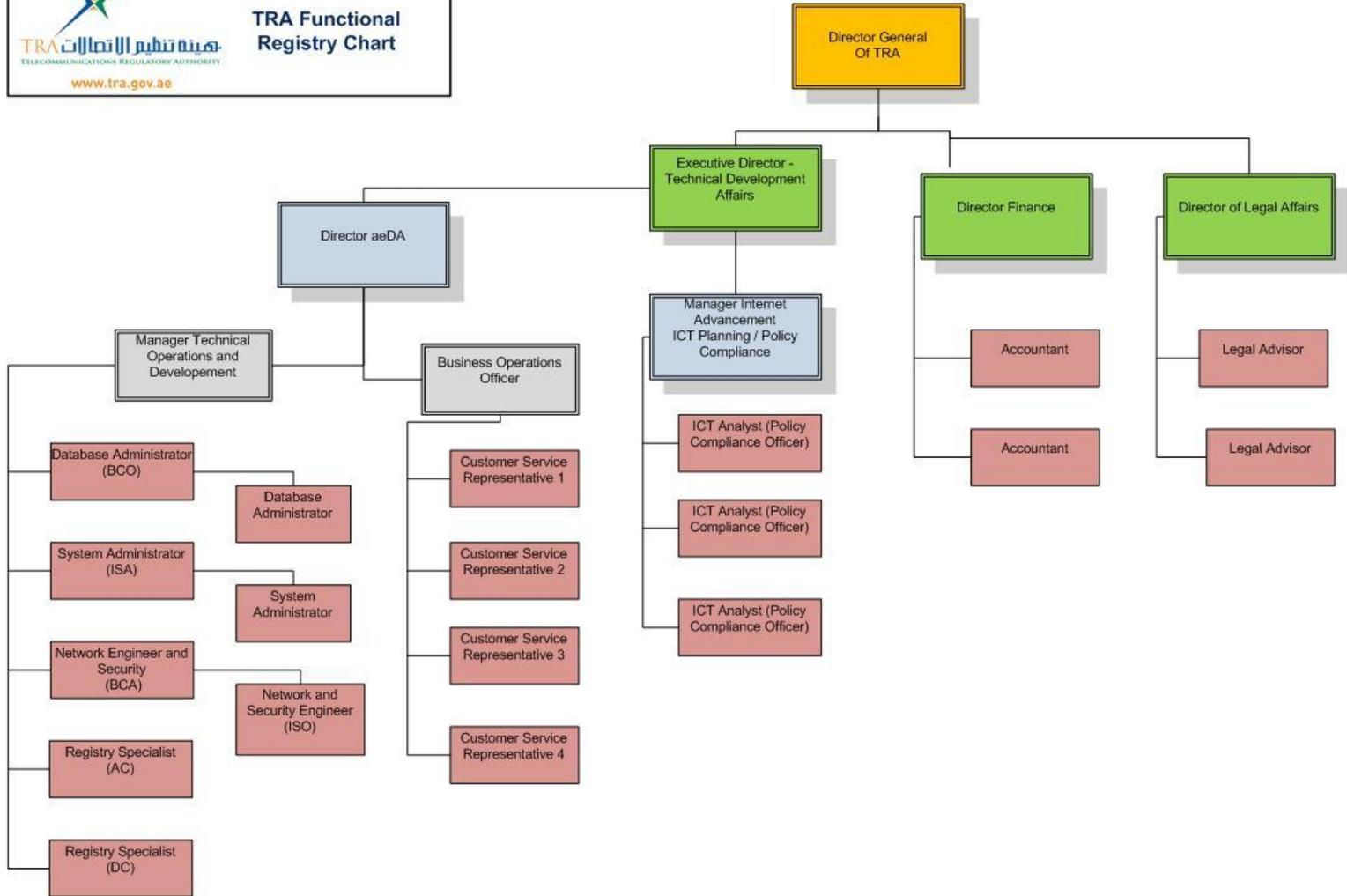
Realising the need and importance for Arabic language domain names, the Telecommunication Regulatory Authority launched the Arabic domain name "امارات" (dotEmarat) to enable Arabic speakers to make the most out of the Internet and its various channels.

aeDA completed the planning and policy development for the introduction of the Internationalised Domain Name representations of their respective country name, in particular the Trademark Protection and Sunrise process and policies.

The .امارات (.emarat) Internationalised TLDs was amongst the first delegated by IANA in early 2010. Significant effort was placed in the development of the supporting policies for these new TLDs. This project saw the confluence of a unique set of circumstances; the introduction of Internationalised Domain Names for the first time on the Internet, and the need to implement policies for a Sunrise Period for their launch.

As a result aeDA developed policies for the Sunrise Period that mirrored industry best practice, and dealt with the complex issues surrounding Internationalised Domain Names. .امارات (.emarat) Internationalised TLDs was launched successfully after the completion of the successful Sunrise periods.

TRA Functional Registry Chart



TRA/aeDA Staff & Roles

TRA is divided into distinct operational departments which participate or contribute to the registry services:

- Executive Management
- ICT Planning / Abuse and Compliance
- Legal Affairs
- Finance
- Technical Operations & Development / aeDA
- Business Operations & Development / aeDA

TRA Executive Management

TRA directors are responsible for the development and execution of organisational and technology strategy. They are:

H.E. Mohamed Nasser Al Ghanim

H.E. Mohamed Nasser Al Ghanim is the Director General of the Telecommunications Regulatory Authority. Described as one of the few highly experienced telecom engineers in the UAE, Al Ghanim was entrusted with establishing a telecom regulatory body in the UAE in 2004, "the Telecommunications Regulatory Authority" of the UAE and succeeded in implementing the regulatory framework for the ICT sector, including the necessary policies, such as Interconnection Agreements and Pricing Policies for the creation of a healthy and a competitive environment. In 2006 and under Al Ghanim's leadership, TRA licensed the second telecom operator in the UAE. Under Al Ghanim's leadership in 2008, TRA achieved ".ae" re-delegation and opened the market based on industry standard registry-registrar model. In 2010, TRA was among the first registry operators in the world to obtain IDN delegation from ICANN under .emirate (IDN).

A telecom and ICT veteran, Al Ghanim graduated from Etisalat College of Engineering in 1994 with a Bachelor in Telecommunications Engineering with honors. His career started with Emirates Telecommunications Corporation (Etisalat) in Radio communication department. In 1997 he moved to Thuraya Telecommunications Company where he achieved the highest managerial post as Senior Manager Product Development. Al Ghanim was also in charge of the UAE Telecom & E-Commerce Chapters during Free Trade Agreement negotiations. He was also in charge of the committee which formulated the IT Strategy for the UAE government.

Al Ghanim is involved in many international and local working committees and groups; He is the Chairman of the UAE Institute for Advanced Science and Technology, Vice-Chairman of the UAE Information and Communication Technology (ICT) Fund and a Board member of National Media Council, he chairs the Spectrum Coordination Committee (SCC) in charge of setting the National Spectrum Plan; he is also the Chairman of the UAE World Summit on the Information Society (WSIS) committee who is in charge of following up on the implementation of the WSIS. He is also a member of the Abu Dhabi Quality and Conformity Council.

Eng. Mohammed Gheyath, Executive Director - Technology Development Affairs

Eng. Mohammed Gheyath graduated from Etisalat College of Engineering in 1997 and joined the only telecom operator in the UAE at that time, the Emirates Telecommunications Corporation (Etisalat), followed by Thuraya Satellite Telecommunication Company (Thuraya), where he held a number of positions after being seconded for technical support to be responsible for many tasks in the fields of Satellite Communications, Radio Microwaves and Cable Transmission.

In 2001, he joined the Mobile Development Department in Etisalat and was in charge of Mobile Network Planning and Optimization of the Northern Emirates, covering Sharjah, Ajman, Um Al Quwain, Ras Al Khaima and Fujairah.

He led the team that introduced the 3rd Generation Mobile Network in the Northern Emirates and was a member of the committee that submitted a bid for the second mobile operator in Saudi Arabia, which resulted in a license and the formation of the company Mobily.

In January 2005, Eng. Mohammed joined the UAE Telecommunications Regulatory Authority (TRA) as the Head of Technical Affairs Department. He currently leads many TRA projects and initiatives, such as the UAE Computer Emergency Response Team (aeCERT), the .ae Domain Name Administration (aeDA), the Mobile Number Portability and many others.

Eng. Mohammed Al Zarooni, Director ae Domain Administration

Eng. Mohammed Al Zarooni graduated from Etisalat College of Engineering in 2002 and joined the only telecom operator in the UAE at that time, the Emirates Telecommunications Corporation (Etisalat), where he was responsible for many tasks in the fields of Internet Authentication Services, Database Services, and System Administration.

In 2005, with Etisalat he led the Internet Services Provisioning as a Manager and was in charge of Authentication, Provisioning and Billing services for broadband (DSL), Wifi HotSpots (IWAN), Database Planning and Optimization of provisioning and authentication performance, covering all the states within United Arab Emirates.

In October 2007, Eng. Mohammed joined the UAE Telecommunications Regulatory Authority (TRA) as the Chief Technology Officer (CTO) of .ae Domain Administration. He was involved in building the .ae infrastructure from the beginning including the implementation of network links, disaster recovery and DNS diversification. The .ae Domain Administration is the Regulatory Body and Registry Operator for the .ae domain name.

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He is an active participant in the domain industry including ICANN and other domain industry forums, seminars, and conferences. He has also contributed to the Arabic Script IDN Working Group (ASIWG)

His expertise and experiences with respect to Internet and related services qualified him to lead a team of engineers in the .ae Domain Administration, introducing best Information Technology practices to the .ae Domain Name space. He is responsible for the day-to-day operations of aeDA's business in accordance with aeDA's constitution and strategic plans.

Eng Mohammed is a key driver for many domain name space related projects and initiative, such as the dotEmarat (IDN) and new gTLDs.

ARI Registry Services (ARI)

TRA uses experienced domain industry consultants such as ARI with whom TRA has a general consultation agreement. ARI's consultants assist TRA in adapting to industry changes.

Legal Affairs

TRA will provide the legal services for this TLD. This includes:

- Manages legal matters of TRA.
- Update TRA on compliance requirements.
- TRA uses the following staff to deliver legal services:

1 x Director of Legal Affairs: oversees the operation of the department, enforcing appropriate controls and ensuring that the departmental operations adhere to legal, policy, contractual and compliance requirements.

2 x Legal Advisors: Is a qualified lawyer and responsible for all in-house legal advice and guidance to the Executive Management team. This may be in the areas of response to law enforcement or dealing with Domain Name Abuse.

Staff members bring skills including domain name law relating to trademarks and technical skills used to identify malicious domains. Legal Advisors are required to have the following skills/qualifications:

- comprehensive knowledge of abusive behaviour with respect to domain names and related policies,
- Internet industry knowledge,
- relevant post-secondary qualification,
- excellent communication and professional skills,
- accurate data entry skills,
- high-level problem solving skills, and,
- high-level computer skills.

ICT Planning / Abuse and Compliance

TRA will provide the abuse and compliance services for this TLD. This includes:

Compliance with ICANN mandated RPMs including the URS.

Point-of contact for external reports of abusive registrations.

Provision of an expedited process for law enforcement agencies. TRA uses the following staff to deliver abuse and compliance services:

1 x Manager Internet Advancement: Responsible for managing and overseeing policy creation and execution of its policy compliance officers.

3 x Policy Compliance Officers: Are responsible for the enforcement of anti-abuse policies and the execution of instructions from URS providers and law enforcement agencies.

Staff members bring skills including domain name law relating to trademarks and technical skills used to identify malicious domains. Policy Compliance Officers are required to have the following skills/qualifications:

- Customer service/fault handling experience,
- comprehensive knowledge of abusive behaviour with respect to domain names and related policies,
- Internet industry knowledge,

- relevant post-secondary qualification,
- excellent communication and professional skills,
- accurate data entry skills,
- high-level problem solving skills, and,
- high-level computer skills.

Technical Operations and Development team

The Technical Operations and Development (TOD) department of TRA is responsible for the design, deployment, on-going maintenance of the registry infrastructure including capacity planning and security. This team ensures the registry services are available and performing at the appropriate level, and operating correctly. The technical customer support function is also contained within the TOD. The groups consist of:

– Manager Technical Operations & Development Manager: is responsible for overseeing the day-to-day operations of the group. The MTOD also holds the responsibility of being the Change Manager and managing project implementations. Additionally, MTOD oversees the Information Security Officer (ISO) and Business Continuity Officer (BCO) roles.

– Service Desk:

- 2 x Registry Specialists (Level 2 support): Are trained in all aspects of the registry system to a detailed and technical level. They have knowledge of the toolkits that are provided to registrars and understand details of the internal workings of the registry system. Registry specialist will be technically proficient having been developers or system engineers.

– Operations and Implementation (Level 3 support):

- 2 x Systems Administrators: Are responsible for administration of all registry systems, including overseeing backup and escrow operations, responsible for configuration, testing and deployment of servers and storage.
- 2 x Database Administrators: Are responsible for the operations of the Oracle databases including Production, OTE and Staging environments. They look after backup of the environment as well as ensuring that performance is up to standard. They are also responsible for configuration and deployment of database platforms, as well as the required backups and testing.
- 2 x Network & Security Engineers: Manage and monitor the network and associated devices. They are experts in routing and respond to all network events generated by monitoring systems. Responsibilities include configuration and deployment of network equipment, as well as routing design and bandwidth provisioning. They are also responsible for placing relevant security measures in place. One of them also performs the role of an Information Security Officer (ISO).

The Operations and Implementation team members of the TOD are also divided into two virtual teams, team A and team B, for dealing with emergency scenarios. Should recovery efforts taken, when an event occurs, require 12 or more hours of continuous work the teams will swap after 12 hours. Roles allocated to each team:

- 1 x Systems Administrator
- 1 x Database Administrator
- 1 x Network Engineer
- 1 x Operations Manager

The following is a description of the skills and responsibilities of each role:

- **Manager Technical Operations & Development (MTOD):** Oversees the operation of the Technical Operations and Development (TOD). In addition to being a major driving force for continuous improvement, the MTOD takes responsibility for stability of continuing operations, delivering on projects and motivation. The MTOD manages workload across all team members and delegating daily tasks. They also fulfil some of the daily duties within the team. The manager is certified in the IT Infrastructure Library (ITIL) framework and holds an MBA in Project Management based on the Project Management Body of Knowledge (PMBOK).
- **System Administrator:** Is responsible for all Unix systems that host applications developed by ARI or by other third party. They participate in project work to contribute their operational experience. Systems Engineers may hold certification of Red Hat Certified Engineer (RHCE).
- **Database Administrator:** Are responsible for all database servers used by TRA to deliver registry services. They ensure that database can stand up to circumstances that eventuate in production environments. They participate in project work to contribute their operational experience. DBAs are Oracle Certified Professionals (OCP) and may also hold RHCE status.
- **Network Administrator:** Are responsible for all network equipment operations and setup. They contribute their knowledge of operations to relevant projects. Network Engineers have academic qualifications in networking and hold relevant networking qualifications including: Cisco and ITIL.
- **Registrar Specialist:** Respond to tickets which cannot be performed by CSRs. They interact with the TOD, Legal and Compliance, Business Development teams to maintain knowledge regarding the design and operation of registry systems. Registry specialists may hold Red Hat Certified Technician qualifications.

SRS Software Development

ARI Registry Services is responsible for SRS changes and features, bug fixes and issue diagnosis. Both the Business and Technical Operations and Development teams liaise with ARI Services as necessary to resolve issues and deploy new features. ARI also acts as an escalation point for technical problems. TRA can use ARI to provide expertise in all registry related technical areas at any time under the general consulting agreement. ARI can provide assistance during extraordinary events as they are intimately familiar with TRA's technical environment.

Business Operations and Development

The Business Operations and Development team are responsible for liaising with registrars and include the customer service staff who handle level 1 support for registrars:

– 1 Business Development Officer

Manages relationship with registrars and the domain industry, administers registrar accreditation, conducts research activities to improve the registry business and oversees the customer support representatives, is responsible for the effective marketing of TLDs, developing plans for advertising, sales promotion, public relations, and sales management.

– 4 Customer Support Representative (Level 1)

The first point of call for external parties. CSRs engage in basic troubleshooting and problem analysis.

Finance

The finance team is responsible for the maintenance of registrar account balances and invoicing. The team consists of:

– 1 Director Finance: Responsible for day-to-day management of the finance team, and ensures the quality of accounting within ARI.

– 2 Accountants: Responsible for overseeing accounting functionality including reconciling registry operator and registrar accounts. Are responsible for the day-to-day entering of finance information into ARI's accounting system as well as reconciling transactions from the registry system.

Training and Continual Learning

TRA understands that domain names, registry systems, DNS and the domain name industry in general are a constantly evolving subject. To effectively deliver services for the TLDs, staff are encouraged to continually learn and develop. TRA supports this through annual staff review processes with a focus on skills development. These reviews identify gaps in knowledge from both individuals and the broader organisation. This process is supported with an annual training budget allowing staff to attend training courses. Staff participate in formal research projects and vendor technology briefings to ensure skills and operational practices remain current.

TRA conduct knowledge sharing sessions internally. All staff, in addition to their primary role have the knowledge to handle an additional secondary role. TRA encourages continuous learning to bring a positive impact to the operations of the registry system. TRA staff regularly attend industry forums and events (ICANN, RIPE, MENOG) and staff membership in industry groups is highly encouraged.

Capacity

TRA has undertaken a staff capacity increase project to ensure skills and staff numbers to meet anticipated requirements.

Despite staff increases, TRA retains staff with significant experience in the domain name industry in all teams described. TRA's unique position within the UAE labour marketplace ensures it receives preferential attention from domain name industry skilled individuals. TRA can also call upon ARI to provide short-term capacity increases through its ongoing support arrangement. This allows the TRA to absorb transient increased capacity needs, while retaining staff as appropriate for long-term capacity needs.

Appendix 1 – Experience Case Studies

.ae Re-delegation Experience – Case Study aeDA

Situation

The Telecommunications Regulatory Authority (TRA) of the United Arab Emirates (UAE) identified that the UAE's Top Level Domain (.ae) was not sufficiently developed to reflect the identity, dynamism and modernity of the UAE. A decision was therefore made to review the operations of the .ae TLD and the structure of the Domain Name industry within the UAE.

Solution

In 2006, the TRA appointed ARI Registry Services to conduct a thorough review of the framework, governance and administration of the .ae TLD. TRA along with ARI Registry Services consultancy generated the following outcomes:

- The establishment of a new body to administer the .ae TLD – .ae Domain Administration (aeDA).
- The development of a comprehensive suite of Domain Name policies, designed to uphold the cultural and moral values of the UAE while protecting intellectual property rights and providing the basis for a high quality registration base for the .ae TLD.
- The creation of internal processes and procedures and the recruitment and training of local staff to build aeDA's capacity.
- The delivery of comprehensive branding and marketing plans for aeDA and for the .ae TLD.
- The IANA re-delegation process, through which the responsibility for the .ae TLD was transferred from the incumbent operator to the aeDA.

Outcome

TRA has been highly successful and the aeDA now enjoys a position of industry leadership within the region.

In the years since its re-launch, .ae TLD has seen significant growth in registration volumes. As a result of the significant growth of the name space, an aftermarket has also developed for .ae TLD Domain Names indicating a solid global and local demand for the .ae TLD brand. In one of the early, more high profile examples, a single .ae TLD Domain Name was resold in July 2009 for approximately USD 1.6 million dollars.