New gTLD Application Submitted to ICANN by: Amazon EU S.à r.l.

String: BOOK

Originally Posted: 13 June 2012

Application ID: 1-1315-44051

Applicant Information

1. Full legal name

Amazon EU S.à r.l.

2. Address of the principal place of business

5 rue Plaetis
Luxembourg   L-2338
LU

3. Phone number

+352 26733 300

4. Fax number

+352 26733 335

5. If applicable, website or URL

http:⁄⁄www.amazon.com⁄

Primary Contact

6(a). Name

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6(b). Title

Operations Director

6(c). Address

6(d). Phone Number

+442074218250

6(e). Fax Number

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Secondary Contact

7(a). Name

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7(b). Title

Associate General Counsel, IP

7(c). Address

7(d). Phone Number

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7(f). Email Address

danan@amazon.com

Proof of Legal Establishment

8(a). Legal form of the Applicant

Corporation (Société à responsabilité limitée)

8(b). State the specific national or other jursidiction that defines the type of entity identified in 8(a).

Luxembourg

8(c). Attach evidence of the applicant's establishment.

Attachments are not displayed on this form.

9(a). If applying company is publicly traded, provide the exchange and symbol.

9(b). If the applying entity is a subsidiary, provide the parent company.

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Amazon Europe Holding Technologies S.C.S. (AEHT) owns 100% of Amazon EU S.à r.l.
AEHT is held by one unlimited partner, Amazon Europe Holdings, Inc. and two
limited partners, Amazon.com, Inc.  and Amazon.com Int'l Sales, Inc.
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9(c). If the applying entity is a joint venture, list all joint venture partners.

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Amazon EU S.à r.l. is not a joint venture.
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Applicant Background

11(a). Name(s) and position(s) of all directors

Allan Lyall	Manager
Eric Laurent Broussard	Manager
Eva Charlotte Gehlin	Manager
Gregory William Greeley	Manager
John Timothy Leslie	Manager

11(b). Name(s) and position(s) of all officers and partners

Allan Lyall	Manager
Eric Laurent Broussard	Manager
Eva Charlotte Gehlin	Manager
Gregory William Greeley	Manager
John Timothy Leslie	Manager

11(c). Name(s) and position(s) of all shareholders holding at least 15% of shares

Amazon Europe Holding Technologies S.C.S	Not Applicable

11(d). For an applying entity that does not have directors, officers, partners, or shareholders: Name(s) and position(s) of all individuals having legal or executive responsibility

Applied-for gTLD string

13. Provide the applied-for gTLD string. If an IDN, provide the U-label.

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BOOK
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14(a). If an IDN, provide the A-label (beginning with "xn--").

14(b). If an IDN, provide the meaning or restatement of the string in English, that is, a description of the literal meaning of the string in the opinion of the applicant.

14(c). If an IDN, provide the language of the label (in English).

14(c). If an IDN, provide the language of the label (as referenced by ISO-639-1).

14(d). If an IDN, provide the script of the label (in English).

14(d). If an IDN, provide the script of the label (as referenced by ISO 15924).

14(e). If an IDN, list all code points contained in the U-label according to Unicode form.

15(a). If an IDN, Attach IDN Tables for the proposed registry.

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Attachments are not displayed on this form.
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15(b). Describe the process used for development of the IDN tables submitted, including consultations and sources used.

15(c). List any variant strings to the applied-for gTLD string according to the relevant IDN tables.

16. Describe the applicant's efforts to ensure that there are no known operational or rendering problems concerning the applied-for gTLD string. If such issues are known, describe steps that will be taken to mitigate these issues in software and other applications.

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Neustar, Amazon EU S.à r.l.'s provider of back end registry services, confirms
that it does not anticipate any problems in the operation or rendering of this
ASCII string.  The string conforms to accepted standards and poses no threat to
the operational security and stability of the Internet.
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17. (OPTIONAL) Provide a representation of the label according to the International Phonetic Alphabet (http://www.langsci.ucl.ac.uk/ipa/).

Mission/Purpose

18(a). Describe the mission/purpose of your proposed gTLD.

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Founded in 1994, Amazon opened on the World Wide Web in July 1995 and today offers
Earth's Biggest Selection.  Amazon seeks to be Earth's most customer-centric
company, where customers can find and discover anything they might want to buy
online, and endeavors to offer its customers the lowest possible prices.  Amazon
and other sellers offer millions of unique new, refurbished and used items in
categories such as Books; Movies, Music & Games; Digital Downloads; Electronics &
Computers; Home & Garden; Toys, Kids & Baby; Grocery; Apparel, Shoes & Jewelry;
Health & Beauty; Sports & Outdoors; and Tools, Auto & Industrial. Amazon Web
Services provides Amazon's developer customers with access to in-the-cloud
infrastructure services based on Amazon's own back-end technology platform, which
developers can use to enable virtually any type of business.  The new latest
generation Kindle is the lightest, most compact Kindle ever and features the same
6-inch, most advanced electronic ink display that reads like real paper even in
bright sunlight.  Kindle Touch is a new addition to the Kindle family with an
easy-to-use touch screen that makes it easier than ever to turn pages, search,
shop, and take notes — still with all the benefits of the most advanced electronic
ink display.  Kindle Touch 3G is the top of the line e-reader and offers the same
new design and features of Kindle Touch, with the unparalleled added convenience
of free 3G.  Kindle Fire is the Kindle for movies, TV shows, music, books,
magazines, apps, games and web browsing with all the content, free storage in the
Amazon Cloud, Whispersync, Amazon Silk (Amazon's new revolutionary cloud-
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accelerated web browser), vibrant color touch screen, and powerful dual-core processor.

The mission of the .BOOK registry is:
To provide a unique and dedicated platform for Amazon while simultaneously protecting the integrity of its brand and reputation.
A .BOOK registry will:
•   Provide Amazon with additional controls over its technical architecture, offering a stable and secure foundation for online communication and interaction.
•   Provide Amazon a further platform for innovation.
•   Enable Amazon to protect its intellectual property rights.

18(b). How do you expect that your proposed gTLD will benefit registrants, Internet users, and others?

The .BOOK registry will benefit registrants and internet users by offering a stable and secure foundation for online communication and interaction.

What is the goal of your proposed gTLD in terms of areas of specialty, service levels or reputation?
Amazon intends for its new .BOOK gTLD to provide a unique and dedicated platform for stable and secure online communication and interaction. The .BOOK registry will be run in line with current industry standards of good registry practice.

What do you anticipate your proposed gTLD will add to the current space in terms of competition, differentiation or innovation?
Amazon values the opportunity to be one of the first companies to own a gTLD. A .BOOK registry will:
•   Provide Amazon with additional controls over its technical architecture, offering a stable and secure foundation for online communication and interaction.
•   Provide Amazon a further platform for innovation.
•   Enable Amazon to protect its intellectual property rights.

What goals does your proposed gTLD have in terms of user experience?
Amazon intends for its new .BOOK gTLD to provide a unique and dedicated platform for stable and secure online communication and interaction.

Provide a complete description of the applicant's intended registration policies in support of the goals above
Amazon's Intellectual Property group will be responsible for the development, maintenance and enforcement of a Domain Management Policy. The Domain Management Policy will define (i) the rules associated with eligibility and domain name allocation, (ii) the license terms governing the use of a .BOOK domain name, and (iii) the dispute resolution policies for the .BOOK gTLD. Amazon will continually update the Domain Management Policy as needed to reflect Amazon's business goals and, where appropriate, ICANN consensus policies.
Registration of a domain name in the .BOOK registry will be undertaken in four steps: (i) Eligibility Confirmation, (ii) Naming Convention Check, (iii) Acceptable Use Review, and (iv) Registration. All domains in the .BOOK registry will remain the property of Amazon.
For example, on the rules of eligibility, each applied for character string must conform to the .BOOK rules of eligibility. Each .BOOK name must:
• be at least 3 characters and no more than 63 characters long
• not contain a hyphen on the 3rd and 4th position (tagged domains)
• contain only letters (a-z), numbers (0-9) and hyphens or a combination of these
• start and end with an alphanumeric character, not a hyphen
• not match any character strings reserved by ICANN
• not match any protected country names or geographical terms
Additionally:
•   Internationalized domain names (IDN) may be supported in the .BOOK registry at the second level.

- The .BOOK registry will respect third party intellectual property rights.
- .BOOK domains may not be delegated or assigned to third party organizations, institutions, or individuals.
- All .BOOK domains will carry accurate and up-to-date registration records. Amazon's Intellectual Property group reserves the right to revoke a license to use a .BOOK domain name, at any time, if any use of a .BOOK domain name violates the Domain Management Policy.

Will your proposed gTLD impose any measures for protecting the privacy of confidential information of registrants or users?
Yes. Amazon will implement appropriate privacy policies respecting requirements of local jurisdictions. For example, Amazon is a participant in the Safe Harbor program developed by the U.S. Department of Commerce and the European Union.

Describe whether and in what ways outreach and communications will help to achieve your projected benefits?
There is no foreseeable reason for Amazon to undertake public outreach or mass communication about its new gTLD registry because domains will be provisioned in line with Amazon's business goals.

18(c). What operating rules will you adopt to eliminate or minimize social costs?

Amazon intends to initially provision a relatively small number of domains in the .BOOK registry to support the business goals of Amazon. These initiatives should not impose social costs of any type on consumers.

How will multiple applications for a particular domain be resolved, for example, by auction or on a first come first served basis?
Applications from Amazon and its subsidiaries for domains in the .BOOK registry will be considered by Amazon's Intellectual Property group and allocated in line with Amazon's business goals. The .BOOK registry will not be promoted by hundreds of registrars simultaneously, so there will not be multiple-applications for a particular domain.

Explain any cost benefits for registrants you intend to implement (e.g. advantageous pricing, introductory discounts, bulk registration discounts).
Domains in the .BOOK registry will be provisioned to support the business goals of Amazon. Accordingly, "cost benefits" may be explored depending on the business goals of Amazon. Amazon shares the goals of enhancing customer trust and choice.

The Registry Agreement requires that registrars be offered the option to obtain initial domain name registrations for periods of one to ten years at the discretion of the registrar, but no greater than 10 years. Additionally the Registry Agreement requires advance written notice of price increases. Do you intend to make contractual commitments to registrants regarding the magnitude of price escalation?
The Domain Management Policy will include the costs and benefits of Amazon's unique and dedicated platform for stable and secure online communication and interaction.

Community-based Designation

19. Is the application for a community-based TLD?

No

20(a). Provide the name and full description of the community that the applicant is committing to serve.

20(b). Explain the applicant's relationship to the community identified in 20(a).

20(c). Provide a description of the community-based purpose of the applied-for gTLD.

20(d). Explain the relationship between the applied-for gTLD string and the community identified in 20(a).

20(e). Provide a description of the applicant's intended registration policies in support of the community-based purpose of the applied-for gTLD.

20(f). Attach any written endorsements from institutions/groups representative of the community identified in 20(a).

Attachments are not displayed on this form.

Geographic Names

21(a). Is the application for a geographic name?

No

Protection of Geographic Names

22. Describe proposed measures for protection of geographic names at the second and other levels in the applied-for gTLD.

Amazon EU S.à r.l., with support of its ultimate parent company, Amazon.com, Inc. (collectively referred to in this response throughout as "Amazon"), is committed to managing the .BOOK registry in full compliance with all applicable laws, consensus policies, ICANN guidelines, RFCs and the Specifications of the Registry Agreement. In the management of domain names in the .BOOK registry, based on GAC advice and Specification 5, Amazon intends to block from initial registration those country and territory names contained in the following lists:
1.   The short form (in English) of all country and territory names contained on the ISO 3166- 1 list, as updated from time to time, including the European Union; and
2.   The United Nations Group of Experts on Geographical Names, Technical Reference Manual for the Standardization of Geographical Names, Part III Names of Countries of the World; and
3.   The list of United Nations member states in 6 official United Nations languages prepared by the Working Group on Country Names of the United Nations Conference on the Standardization of Geographical Names.

The process for reserving these names, and hence blocking them from registration, will be agreed to with our technical service provider Neustar.
Because the .BOOK registry will be a single entity registry and for purposes which serve Amazon's strategic business aims, the reserved names cannot be offered to Governments or other official bodies for their own use as this would conflict with the mission and purpose of the gTLD. However, for the same reason, they will not be offered to third parties.
The .BOOK registry only provides for the registration of names at the second level. No third level domains will be delegated at the registry level. It is consistent with GAC advice that Amazon may choose to create sub domains using country names or abbreviations at the third level. For example, Amazon may register information.book and its internal users may create sub domains such as us.information.book or uk.information.book.

Amazon may also use a folder structure to represent country names in its URLs, while the block exists at the second level. For example, information.book⁄germany or information.book⁄uk.
We imagine that over time, there will be demand from brand gTLDs leading to the development of a standardized process for requesting GAC review and ICANN approval for the release of country and territory names for registration by the Registry Operator when the registry is a single entity registry. When such a process is in place, Amazon expects to apply for the release of country and territory names within .BOOK.

Registry Services

23. Provide name and full description of all the Registry Services to be provided.

23.1 Introduction

Amazon EU S.à r.l. has elected to partner with Neustar, Inc. to provide back-end services for the .BOOK registry. In making this decision, Amazon EU S.à r.l. recognized that Neustar already possesses a production-proven registry system that

can be quickly deployed and smoothly operated over its robust, flexible, and scalable world-class infrastructure. The existing registry services will be leveraged for the .BOOK registry. The following section describes the registry services to be provided.

23.2 Standard Technical and Business Components

Neustar will provide the highest level of service while delivering a secure, stable and comprehensive registry platform. Amazon EU S.à r.l. will use Neustar's Registry Services platform to deploy the .BOOK registry, by providing the following Registry Services (none of these services are offered in a manner that is unique to .BOOK.

- Registry-Registrar Shared Registration Service (SRS)
- Extensible Provisioning Protocol (EPP)
- Domain Name System (DNS)
- WHOIS
- DNSSEC
- Data Escrow
- Dissemination of Zone Files using Dynamic Updates
- Access to Bulk Zone Files
- Dynamic WHOIS Updates
- IPv6 Support
- Rights Protection Mechanisms
- Internationalized Domain Names (IDN).

The following is a description of each of the services.

SRS

Neustar's secure and stable SRS is a production-proven, standards-based, highly reliable, and high-performance domain name registration and management system. The SRS includes an EPP interface for receiving data from registrars for the purpose of provisioning and managing domain names and name servers. The response to Question 24 provides specific SRS information.

EPP

The .BOOK registry will use the Extensible Provisioning Protocol (EPP) for the provisioning of domain names. The EPP implementation will be fully compliant with all RFCs. Registrars are provided with access via an EPP API and an EPP based Web GUI.   With more than 10 gTLD, ccTLD, and private TLDs implementations, Neustar has extensive experience building EPP-based registries. Additional discussion on the EPP approach is presented in the response to Question 25.

DNS

Amazon EU S.à r.l. will leverage Neustar's world-class DNS network of geographically distributed nameserver sites to provide the highest level of DNS service.   The service utilizes "Anycast" routing technology, and supports both IPv4 and IPv6.   The DNS network is highly proven, and currently provides service to over 20 TLDs and thousands of enterprise companies. Additional information on the DNS solution is presented in the response to Questions 35.

WHOIS

Neustar's existing standard WHOIS solution will be used for .BOOK. The service provides supports for near real-time dynamic updates. The design and construction is agnostic with regard to data display policy is flexible enough to accommodate any data model. In addition, a searchable WHOIS service that complies with all ICANN requirements will be provided. The following WHOIS options will be provided:

Standard WHOIS (Port 43)
Standard WHOIS (Web)
Searchable WHOIS (Web)

DNSSEC

An RFC compliant DNSSEC implementation will be provided using existing DNSSEC capabilities. Neustar is an experienced provider of DNSSEC services, and currently manages signed zones for three large top level domains: .biz, .us, and .co. Registrars are provided with the ability to submit and manage DS records using EPP, or through a web GUI. Additional information on DNSSEC, including the management of security extensions is found in the response to Question 43.

Data Escrow

Data escrow will be performed in compliance with all ICANN requirements in conjunction with an approved data escrow provider.   The data escrow service will:

- Protect against data loss
- Follow industry best practices
- Ensure easy, accurate, and timely retrieval and restore capability in the

event of a hardware failure

☐   Minimizes the impact of software or business failure.
Additional information on the Data Escrow service is provided in the response to Question 38.

Dissemination of Zone Files using Dynamic Updates
Dissemination of zone files will be provided through a dynamic, near real-time process. Updates will be performed within the specified performance levels. The proven technology ensures that updates pushed to all nodes within a few minutes of the changes being received by the SRS. Additional information on the DNS updates may be found in the response to Question 35.

Access to Bulk Zone Files
Amazon EU S.à r.l. will provide third party access to the bulk zone file in accordance with specification 4, Section 2 of the Registry Agreement. Credentialing and dissemination of the zone files will be facilitated through the Central Zone Data Access Provider.

Dynamic WHOIS Updates
Updates to records in the WHOIS database will be provided via dynamic, near real-time updates. Guaranteed delivery message oriented middleware is used to ensure each individual WHOIS server is refreshed with dynamic updates. This component ensures that all WHOIS servers are kept current as changes occur in the SRS, while also decoupling WHOIS from the SRS. Additional information on WHOIS updates is presented in response to Question 26.

IPv6 Support
The .BOOK registry will provide IPv6 support in the following registry services: SRS, WHOIS, and DNS⁄DNSSEC. In addition, the registry supports the provisioning of IPv6 AAAA records. A detailed description on IPv6 is presented in the response to Question 36.

Required Rights Protection Mechanisms
Amazon EU S.à r.l. will provide all ICANN required Rights Mechanisms, including:
☐   Trademark Claims Service
☐   Trademark Post-Delegation Dispute Resolution Procedure (PDDRP)
☐   Registration Restriction Dispute Resolution Procedure (RRDRP)
☐   UDRP
☐   URS
☐   Sunrise service.
More information is presented in the response to Question 29.

Internationalized Domain Names (IDN)

IDN registrations are provided in full compliance with the IDNA protocol. Neustar possesses extensive experience offering IDN registrations in numerous TLDs, and its IDN implementation uses advanced technology to accommodate the unique bundling needs of certain languages. Character mappings are easily constructed to block out characters that may be deemed as confusing to users. A detailed description of the IDN implementation is presented in response to Question 44.

23.3 Unique Services
Amazon EU S.à r.l. will not be offering services that are unique to .BOOK.

23.4 Security or Stability Concerns
All services offered are standard registry services that have no known security or stability concerns. Neustar has demonstrated a strong track record of security and stability within the industry.

Demonstration of Technical & Operational Capability

24. Shared Registration System (SRS) Performance

24.1 Introduction
Amazon EU S.à r.l. has partnered with Neustar, Inc., an experienced TLD registry operator, for the operation of the .BOOK Registry. Amazon EU S.à r.l. is

confident that the plan in place for the operation of a robust and reliable Shared Registration System (SRS) as currently provided by Neustar will satisfy the criterion established by ICANN.

Neustar built its SRS from the ground up as an EPP based platform and has been operating it reliably and at scale since 2001. The software currently provides registry services to five TLDs (.BIZ, .US, TEL, .CO and .TRAVEL) and is used to provide gateway services to the .CN and .TW registries. Neustar's state of the art registry has a proven track record of being secure, stable, and robust. It manages more than 6 million domains, and has over 300 registrars connected today.

The following describes a detailed plan for a robust and reliable SRS that meets all ICANN requirements including compliance with Specifications 6 and 10.

24.2 The Plan for Operation of a Robust and Reliable SRS

High-level SRS System Description

The SRS to be used for .BOOK will leverage a production-proven, standards-based, highly reliable and high-performance domain name registration and management system that fully meets or exceeds the requirements as identified in the new gTLD Application Guidebook.

The SRS is the central component of any registry implementation and its quality, reliability and capabilities are essential to the overall stability of the TLD. Neustar has a documented history of deploying SRS implementations with proven and verifiable performance, reliability and availability. The SRS adheres to all industry standards and protocols. By leveraging an existing SRS platform, Amazon EU S.à r.l. is mitigating the significant risks and costs associated with the development of a new system. Highlights of the SRS include:

- State-of-the-art, production proven multi-layer design
- Ability to rapidly and easily scale from low to high volume as a TLD grows
- Fully redundant architecture at two sites
- Support for IDN registrations in compliance with all standards
- Use by over 300 Registrars
- EPP connectivity over IPv6
- Performance being measured using 100% of all production transactions (not sampling).

SRS Systems, Software, Hardware, and Interoperability

The systems and software that the registry operates on are a critical element to providing a high quality of service. If the systems are of poor quality, if they are difficult to maintain and operate, or if the registry personnel are unfamiliar with them, the registry will be prone to outages. Neustar has a decade of experience operating registry infrastructure to extremely high service level requirements. The infrastructure is designed using best of breed systems and software. Much of the application software that performs registry-specific operations was developed by the current engineering team and a result the team is intimately familiar with its operations.

The architecture is highly scalable and provides the same high level of availability and performance as volumes increase. It combines load balancing technology with scalable server technology to provide a cost effective and efficient method for scaling.

The Registry is able to limit the ability of any one registrar from adversely impacting other registrars by consuming too many resources due to excessive EPP transactions. The system uses network layer 2 level packet shaping to limit the number of simultaneous connections registrars can open to the protocol layer.

All interaction with the Registry is recorded in log files. Log files are generated at each layer of the system. These log files record at a minimum:

- The IP address of the client
- Timestamp
- Transaction Details
- Processing Time.

In addition to logging of each and every transaction with the SRS Neustar maintains audit records, in the database, of all transformational transactions. These audit records allow the Registry, in support of Amazon EU S.à r.l., to produce a complete history of changes for any domain name.

SRS Design

The SRS incorporates a multi-layer architecture that is designed to mitigate risks and easily scale as volumes increase. The three layers of the SRS are:

- Protocol Layer

              Business Policy Layer
              Database.
Each of the layers is described below.
Protocol Layer
The first layer is the protocol layer, which includes the EPP interface to
registrars. It consists of a high availability farm of load-balanced EPP servers.
The servers are designed to be fast processors of transactions. The servers
perform basic validations and then feed information to the business policy engines
as described below. The protocol layer is horizontally scalable as dictated by
volume.
The EPP servers authenticate against a series of security controls before granting
service, as follows:
              The registrar's host exchanges keys to initiates a TLS handshake session
with the EPP server.
              The registrar's host must provide credentials to determine proper access
levels.
              The registrar's IP address must be preregistered in the network firewalls
and traffic-shapers.
Business Policy Layer
The Business Policy Layer is the "brain" of the registry system. Within this
layer, the policy engine servers perform rules-based processing as defined through
configurable attributes. This process takes individual transactions, applies
various validation and policy rules, persists data and dispatches notification
through the central database in order to publish to various external systems.
External systems fed by the Business Policy Layer include backend processes such
as dynamic update of DNS, WHOIS and Billing.
Similar to the EPP protocol farm, the SRS consists of a farm of application
servers within this layer. This design ensures that there is sufficient capacity
to process every transaction in a manner that meets or exceeds all service level
requirements. Some registries couple the business logic layer directly in the
protocol layer or within the database. This architecture limits the ability to
scale the registry. Using a decoupled architecture enables the load to be
distributed among farms of inexpensive servers that can be scaled up or down as
demand changes.
The SRS today processes over 30 million EPP transactions daily.
Database
The database is the third core components of the SRS.   The primary function of
the SRS database is to provide highly reliable, persistent storage for all
registry information required for domain registration services. The database is
highly secure, with access limited to transactions from authenticated registrars,
trusted application-server processes, and highly restricted access by the registry
database administrators. A full description of the database can be found in
response to Question 33.
Figure 24-1 depicts the overall SRS architecture including network components.

Number of Servers
As depicted in the SRS architecture diagram above Neustar operates a high
availability architecture where at each level of the stack there are no single
points of failures. Each of the network level devices run with dual pairs as do
the databases.   For the .BOOK registry, the SRS will operate with 8 protocol
servers and 6 policy engine servers. These expand horizontally as volume
increases due to additional TLDs, increased load, and through organic growth.   In
addition to the SRS servers described above, there are multiple backend servers
for services such as DNS and WHOIS. These are discussed in detail within those
respective response sections.
Description of Interconnectivity with Other Registry Systems
The core SRS service interfaces with other external systems via Neustar's external
systems layer. The services that the SRS interfaces with include:
              WHOIS
              DNS
              Billing
              Data Warehouse (Reporting and Data Escrow).
Other external interfaces may be deployed to meet the unique needs of a TLD. At
this time there are no additional interfaces planned for .BOOK.

The SRS includes an "external notifier" concept in its business policy engine as a message dispatcher. This design allows time-consuming backend processing to be decoupled from critical online registrar transactions. Using an external notifier solution, the registry can utilize "control levers" that allow it to tune or to disable processes to ensure optimal performance at all times. For example, during the early minutes of a TLD launch, when unusually high volumes of transactions are expected, the registry can elect to suspend processing of one or more back end systems in order to ensure that greater processing power is available to handle the increased load requirements. This proven architecture has been used with numerous TLD launches, some of which have involved the processing of over tens of millions of transactions in the opening hours. The following are the standard three external notifiers used the SRS:

WHOIS External Notifier

The WHOIS external notifier dispatches a work item for any EPP transaction that may potentially have an impact on WHOIS. It is important to note that, while the WHOIS external notifier feeds the WHOIS system, it intentionally does not have visibility into the actual contents of the WHOIS system. The WHOIS external notifier serves just as a tool to send a signal to the WHOIS system that a change is ready to occur. The WHOIS system possesses the intelligence and data visibility to know exactly what needs to change in WHOIS. See response to Question 26 for greater detail.

DNS External Notifier

The DNS external notifier dispatches a work item for any EPP transaction that may potentially have an impact on DNS. Like the WHOIS external notifier, the DNS external notifier does not have visibility into the actual contents of the DNS zones. The work items that are generated by the notifier indicate to the dynamic DNS update sub-system that a change occurred that may impact DNS. That DNS system has the ability to decide what actual changes must be propagated out to the DNS constellation. See response to Question 35 for greater detail.

Billing External Notifier

The billing external notifier is responsible for sending all billable transactions to the downstream financial systems for billing and collection. This external notifier contains the necessary logic to determine what types of transactions are billable. The financial systems use this information to apply appropriate debits and credits based on registrar.

Data Warehouse

The data warehouse is responsible for managing reporting services, including registrar reports, business intelligence dashboards, and the processing of data escrow files. The Reporting Database is used to create both internal and external reports, primarily to support registrar billing and contractual reporting requirement. The data warehouse databases are updated on a daily basis with full copies of the production SRS data.

Frequency of Synchronization between Servers

The external notifiers discussed above perform updates in near real-time, well within the prescribed service level requirements. As transactions from registrars update the core SRS, update notifications are pushed to the external systems such as DNS and WHOIS. These updates are typically live in the external system within 2-3 minutes.

Synchronization Scheme (e.g., hot standby, cold standby)

Neustar operates two hot databases within the data center that is operating in primary mode. These two databases are kept in sync via synchronous replication. Additionally, there are two databases in the secondary data center. These databases are updated real time through asynchronous replication. This model allows for high performance while also ensuring protection of data. See response to Question 33 for greater detail.

Compliance with Specification 6 Section 1.2

The SRS implementation for .BOOK is fully compliant with Specification 6, including section 1.2. EPP Standards are described and embodied in a number of IETF RFCs, ICANN contracts and practices, and registry-registrar agreements. Extensible Provisioning Protocol or EPP is defined by a core set of RFCs that standardize the interface that make up the registry-registrar model. The SRS interface supports EPP 1.0 as defined in the following RFCs shown in Table 24-1.

Additional information on the EPP implementation and compliance with RFCs can be found in the response to Question 25.

Compliance with Specification 10
Specification 10 of the New TLD Agreement defines the performance specifications
of the TLD, including service level requirements related to DNS, RDDS (WHOIS), and
EPP. The requirements include both availability and transaction response time
measurements. As an experienced registry operator, Neustar has a long and
verifiable track record of providing registry services that consistently exceed
the performance specifications stipulated in ICANN agreements. This same high
level of service will be provided for the .BOOK Registry. The following section
describes Neustar's experience and its capabilities to meet the requirements in
the new agreement.
To properly measure the technical performance and progress of TLDs, Neustar
collects data on key essential operating metrics. These measurements are key
indicators of the performance and health of the registry. Neustar's current .biz
SLA commitments are among the most stringent in the industry today, and exceed the
requirements for new TLDs. Table 24-2 compares the current SRS performance levels
compared to the requirements for new TLDs, and clearly demonstrates the ability of
the SRS to exceed those requirements.

Their ability to commit and meet such high performance standards is a direct
result of their philosophy towards operational excellence. See response to
Question 31 for a full description of their philosophy for building and managing
for performance.
24.3 Resourcing Plans
The development, customization, and on-going support of the SRS are the
responsibility of a combination of technical and operational teams, including:
-       Development⁄Engineering
-       Database Administration
-       Systems Administration
-       Network Engineering.
Additionally, if customization or modifications are required, the Product
Management and Quality Assurance teams will be involved in the design and testing.
Finally, the Network Operations and Information Security play an important role in
ensuring the systems involved are operating securely and reliably.
The necessary resources will be pulled from the pool of operational resources
described in detail in the response to Question 31. Neustar's SRS implementation
is very mature, and has been in production for over 10 years. As such, very
little new development related to the SRS will be required for the implementation
of the .BOOK registry. The following resources are available from those teams:
Development⁄Engineering — 19 employees
Database Administration- 10 employees
Systems Administration — 24 employees
Network Engineering — 5 employees
The resources are more than adequate to support the SRS needs of all the TLDs
operated by Neustar, including the .BOOK registry.

25. Extensible Provisioning Protocol (EPP)

25.1 Introduction
Amazon EU S.à r.l.'s back-end registry operator, Neustar, has over 10 years of
experience operating EPP based registries. They deployed one of the first EPP
registries in 2001 with the launch of .biz. In 2004, they were the first gTLD to
implement EPP 1.0. Over the last ten years Neustar has implemented numerous
extensions to meet various unique TLD requirements. Neustar will leverage its
extensive experience to ensure Amazon EU S.à r.l. is provided with an unparalleled
EPP based registry. The following discussion explains the EPP interface which
will be used for the .BOOK registry. This interface exists within the protocol
farm layer as described in Question 24 and is depicted in Figure 25-1.

25.2 EPP Interface
Registrars are provided with two different interfaces for interacting with the
registry. Both are EPP based, and both contain all the functionality necessary to
provision and manage domain names. The primary mechanism is an EPP interface to

connect directly with the registry. This is the interface registrars will use for most of their interactions with the registry.

However, an alternative web GUI (Registry Administration Tool) that can also be used to perform EPP transactions will be provided. The primary use of the Registry Administration Tool is for performing administrative or customer support tasks.

The main features of the EPP implementation are:

 Standards Compliance: The EPP XML interface is compliant to the EPP RFCs. As future EPP RFCs are published or existing RFCs are updated, Neustar makes changes to the implementation keeping in mind of any backward compatibility issues.

 Scalability: The system is deployed keeping in mind that it may be required to grow and shrink the footprint of the Registry system for a particular TLD.

 Fault-tolerance: The EPP servers are deployed in two geographically separate data centers to provide for quick failover capability in case of a major outage in a particular data center. The EPP servers adhere to strict availability requirements defined in the SLAs.

 Configurability: The EPP extensions are built in a way that they can be easily configured to turn on or off for a particular TLD.

 Extensibility: The software is built ground up using object oriented design. This allows for easy extensibility of the software without risking the possibility of the change rippling through the whole application.

 Auditable: The system stores detailed information about EPP transactions from provisioning to DNS and WHOIS publishing. In case of a dispute regarding a name registration, the Registry can provide comprehensive audit information on EPP transactions.

 Security: The system provides IP address based access control, client credential-based authorization test, digital certificate exchange, and connection limiting to the protocol layer.

25.3 Compliance with RFCs and Specifications

The registry-registrar model is described and embodied in a number of IETF RFCs, ICANN contracts and practices, and registry-registrar agreements. As shown in Table 25-1, EPP is defined by the core set of RFCs that standardize the interface that registrars use to provision domains with the SRS.   As a core component of the SRS architecture, the implementation is fully compliant with all EPP RFCs.

Neustar ensures compliance with all RFCs through a variety of processes and procedures. Members from the engineering and standards teams actively monitor and participate in the development of RFCs that impact the registry services, including those related to EPP.   When new RFCs are introduced or existing ones are updated, the team performs a full compliance review of each system impacted by the change. Furthermore, all code releases include a full regression test that includes specific test cases to verify RFC compliance.

Neustar has a long history of providing exceptional service that exceeds all performance specifications. The SRS and EPP interface have been designed to exceed the EPP specifications defined in Specification 10 of the Registry Agreement and profiled in Table 25-2.   Evidence of Neustar's ability to perform at these levels can be found in the .biz monthly progress reports found on the ICANN website.

EPP Toolkits

Toolkits, under open source licensing, are freely provided to registrars for interfacing with the SRS. Both Java and C++ toolkits will be provided, along with the accompanying documentation. The Registrar Tool Kit (RTK) is a software development kit (SDK) that supports the development of a registrar software system for registering domain names in the registry using EPP. The SDK consists of software and documentation as described below.

The software consists of working Java and C++ EPP common APIs and samples that implement the EPP core functions and EPP extensions used to communicate between the registry and registrar. The RTK illustrates how XML requests (registration events) can be assembled and forwarded to the registry for processing. The

software provides the registrar with the basis for a reference implementation that conforms to the EPP registry-registrar protocol. The software component of the SDK also includes XML schema definition files for all Registry EPP objects and EPP object extensions. The RTK also includes a "dummy" server to aid in the testing of EPP clients.

The accompanying documentation describes the EPP software package hierarchy, the object data model, and the defined objects and methods (including calling parameter lists and expected response behavior). New versions of the RTK are made available from time to time to provide support for additional features as they become available and support for other platforms and languages.

25.4 Proprietary EPP Extensions

The .BOOK registry will not include proprietary EPP extensions. Neustar has implemented various EPP extensions for both internal and external use in other TLD registries. These extensions use the standard EPP extension framework described in RFC 5730. Table 25-3 provides a list of extensions developed for other TLDs. Should the .BOOK registry require an EPP extension at some point in the future, the extension will be implemented in compliance with all RFC specifications including RFC 3735.

The full EPP schema to be used in the .BOOK registry is attached in the document titled "EPP Schema."

25.5 Resourcing Plans
The development and support of EPP is largely the responsibility of the Development⁄Engineering and Quality Assurance teams. As an experience registry operator with a fully developed EPP solution, on-going support is largely limited to periodic updates to the standard and the implementation of TLD specific extensions.

The necessary resources will be pulled from the pool of available resources described in detail in the response to Question 31. The following resources are available from those teams:
Development⁄Engineering — 19 employees
Quality Assurance - 7 employees.
These resources are more than adequate to support any EPP modification needs of the .BOOK registry.

26. Whois

26.1 Introduction
Amazon EU S.à r.l. recognizes the importance of an accurate, reliable, and up-to-date WHOIS database to governments, law enforcement, intellectual property holders and the public as a whole and is firmly committed to complying with all of the applicable WHOIS specifications for data objects, bulk access, and lookups as defined in Specifications 4 and 10 to the Registry Agreement. Amazon EU S.à r.l.'s back-end registry services provider, Neustar, has extensive experience providing ICANN and RFC-compliant WHOIS services for each of the TLDs that it operates both as a Registry Operator for gTLDs, ccTLDs and back-end registry services provider. As one of the first "thick" registry operators in the gTLD space, Neustar's WHOIS service has been designed from the ground up to display as much information as required by a TLD and respond to a very stringent availability and performance requirement.
Some of the key features of .BOOK's solution include:
☐   Fully compliant with all relevant RFCs including 3912
☐   Production proven, highly flexible, and scalable with a track record of 100% availability over the past 10 years
☐   Exceeds current and proposed performance specifications
☐   Supports dynamic updates with the capability of doing bulk updates
☐   Geographically distributed sites to provide greater stability and performance
☐   In addition, .BOOK's thick-WHOIS solution also provides for additional search capabilities and mechanisms to mitigate potential forms of abuse as

discussed below. (e.g., IDN, registrant data).

26.2 Software Components

The WHOIS architecture comprises the following components:

 An in-memory database local to each WHOIS node: To provide for the performance needs, the WHOIS data is served from an in-memory database indexed by searchable keys.

 Redundant servers: To provide for redundancy, the WHOIS updates are propagated to a cluster of WHOIS servers that maintain an independent copy of the database.

 Attack resistant: To ensure that the WHOIS system cannot be abused using malicious queries or DOS attacks, the WHOIS server is only allowed to query the local database and rate limits on queries based on IPs and IP ranges can be readily applied.

 Accuracy auditor: To ensure the accuracy of the information served by the WHOIS servers, a daily audit is done between the SRS information and the WHOIS responses for the domain names which are updated during the last 24-hour period. Any discrepancies are resolved proactively.

 Modular design: The WHOIS system allows for filtering and translation of data elements between the SRS and the WHOIS database to allow for customizations.

 Scalable architecture: The WHOIS system is scalable and has a very small footprint. Depending on the query volume, the deployment size can grow and shrink quickly.

 Flexible: It is flexible enough to accommodate thin, thick, or modified thick models and can accommodate any future ICANN policy, such as different information display levels based on user categorization.

 SRS master database: The SRS database is the main persistent store of the Registry information. The Update Agent computes what WHOIS updates need to be pushed out. A publish-subscribe mechanism then takes these incremental updates and pushes to all the WHOIS slaves that answer queries.

26.3 Compliance with RFC and Specifications 4 and 10

Neustar has been running thick-WHOIS Services for over 10+ years in full compliance with RFC 3912 and with Specifications 4 and 10 of the Registry Agreement.RFC 3912 is a simple text based protocol over TCP that describes the interaction between the server and client on port 43. Neustar built a home-grown solution for this service. It processes millions of WHOIS queries per day. Table 26-1 describes Neustar's compliance with Specifications 4 and 10.

Neustar ensures compliance with all RFCs through a variety of processes and procedures. Members from the engineering and standards teams actively monitor and participate in the development of RFCs that impact the registry services, including those related to WHOIS.   When new RFCs are introduced or existing ones are updated, the team performs a full compliance review of each system impacted by the change. Furthermore, all code releases include a full regression test that includes specific test cases to verify RFC compliance.

26.4 High-level WHOIS System Description

26.4.1 WHOIS Service (port 43)

The WHOIS service is responsible for handling port 43 queries. Our WHOIS is optimized for speed using an in-memory database and master-slave architecture between the SRS and WHOIS slaves.

The WHOIS service also has built-in support for IDN. If the domain name being queried is an IDN, the returned results include the language of the domain name, the domain name's UTF-8 encoded representation along with the Unicode code page.

26.4.2 Web Page for WHOIS queries

In addition to the WHOIS Service on port 43, Neustar provides a web based WHOIS application (www.whois.BOOK). It is an intuitive and easy to use application for the general public to use. WHOIS web application provides all of the features available in the port 43 WHOIS. This includes full and partial search on:

 Domain names

 Nameservers

 Registrant, Technical and Administrative Contacts

 Registrars

It also provides features not available on the port 43 service. These include:

1.   Redemption Grace Period calculation: Based on the registry's policy, domains in pendingDelete can be restorable or scheduled for release depending on

the date∕time the domain went into pendingDelete. For these domains, the web
based WHOIS displays "Restorable" or "Scheduled for Release" to clearly show this
additional status to the user.
2.   Extensive support for international domain names (IDN)
3.   Ability to perform WHOIS lookups on the actual Unicode IDN
4.   Display of the actual Unicode IDN in addition to the ACE-encoded name
5.   A Unicode to Punycode and Punycode to Unicode translator
6.   An extensive FAQ
7.   A list of upcoming domain deletions
26.5 IT and Infrastructure Resources
As described above the WHOIS architecture uses a workflow that decouples the
update process from the SRS. This ensures SRS performance is not adversely
affected by the load requirements of dynamic updates. It is also decoupled from
the WHOIS lookup agent to ensure the WHOIS service is always available and
performing well for users. Each of Neustar's geographically diverse WHOIS sites
use:
⬜   Firewalls, to protect this sensitive data
⬜   Dedicated servers for MQ Series, to ensure guaranteed delivery of WHOIS
updates
⬜   Packetshaper for source IP address-based bandwidth limiting
⬜   Load balancers to distribute query load
⬜   Multiple WHOIS servers for maximizing the performance of WHOIS service.
The WHOIS service uses HP BL 460C servers, each with 2 X Quad Core CPU and a 64GB
of RAM. The existing infrastructure has 6 servers, but is designed to be easily
scaled with additional servers should it be needed.
Figure 26-1 depicts the different components of the WHOIS architecture.

26.6 Interconnectivity with Other Registry System
As described in Question 24 about the SRS and further in response to Question 31,
"Technical Overview", when an update is made by a registrar that impacts WHOIS
data, a trigger is sent to the WHOIS system by the external notifier layer. The
update agent processes these updates, transforms the data if necessary and then
uses messaging oriented middleware to publish all updates to each WHOIS slave. The
local update agent accepts the update and applies it to the local in-memory
database. A separate auditor compares the data in WHOIS and the SRS daily and
monthly to ensure accuracy of the published data.
26.7 Frequency of Synchronization between Servers
Updates from the SRS, through the external notifiers, to the constellation of
independent WHOIS slaves happens in real-time via an asynchronous
publish∕subscribe messaging architecture.   The updates are guaranteed to be
updated in each slave within the required SLA of 95% ≤ 60 minutes. Please note
that Neustar's current architecture is built towards the stricter SLAs (95% ≤ 15
minutes) of .BIZ. The vast majority of updates tend to happen within 2-3 minutes.
26.8 Provision for Searchable WHOIS Capabilities
Neustar will create a new web-based service to address the new search features
based on requirements specified in Specification 4 Section 1.8. The application
will enable users to search the WHOIS directory using any one or more of the
following fields:
⬜   Domain name
⬜   Registrar ID
⬜   Contacts and registrant's name
⬜   Contact and registrant's postal address, including all the sub-fields
described in EPP (e.g., street, city, state or province, etc.)
⬜   Name server name and name server IP address
⬜   The system will also allow search using non-Latin character sets which are
compliant with IDNA specification.
The user will choose one or more search criteria, combine them by Boolean
operators (AND, OR, NOT) and provide partial or exact match regular expressions
for each of the criterion name-value pairs.   The domain names matching the search
criteria will be returned to the user.
Figure 26-2 shows an architectural depiction of the new service.

Potential Forms of Abuse

As recognized by the Terms of Reference for Whois Misuse Studies,

http:⁄⁄gnso.icann.org⁄issues⁄whois⁄tor-whois-misuse-studies-25sep09-en.pdf, a
number of reported and recorded harmful acts, such as spam, phishing, identity
theft, and stalking which Registrants believe were sent using WHOIS contact
information. Although these Whois studies are still underway, there is a general
belief that public access to Whois data may lead to a measurable degree of misuse
— that is, to actions that cause actual harm, are illegal or illegitimate, or
otherwise contrary to the stated legitimate purpose. One of the other key focuses
of these studies will be to correlate the reported incidents of harmful acts with
anti-harvesting measures that some Registrars and Registries apply to WHOIS
queries (e.g., rate limiting, CAPTCHA, etc.).

Neustar firmly believes that adding the increased search capabilities, without
appropriate controls could exacerbate the potential abuses associated with the
Whois service. To mitigate the risk of this powerful search service being abused
by unscrupulous data miners, a layer of security will be built around the query
engine which will allow the registry to identify rogue activities and then take
appropriate measures. Potential abuses include, but are not limited to:
• 	Data Mining
• 	Unauthorized Access
• 	Excessive Querying
• 	Denial of Service Attacks
To mitigate the abuses noted above, Neustar will implement any or all of these
mechanisms as appropriate:
	Username-password based authentication
	Certificate based authentication
	Data encryption
	CAPTCHA mechanism to prevent robo invocation of Web query
	Fee-based advanced query capabilities for premium customers.
The searchable WHOIS application will adhere to all privacy laws and policies of
the .BOOK registry.
26.9 Resourcing Plans
As with the SRS, the development, customization, and on-going support of the WHOIS
service is the responsibility of a combination of technical and operational teams.
The primary groups responsible for managing the service include:
	Development⁄Engineering — 19 employees
	Database Administration — 10 employees
	Systems Administration — 24 employees
	Network Engineering — 5 employees
Additionally, if customization or modifications are required, the Product
Management and Quality Assurance teams will also be involved. Finally, the
Network Operations and Information Security play an important role in ensuring the
systems involved are operating securely and reliably. The necessary resources
will be pulled from the pool of available resources described in detail in the
response to Question 31. Neustar's WHOIS implementation is very mature, and has
been in production for over 10 years. As such, very little new development will
be required to support the implementation of the .BOOK registry. The resources are
more than adequate to support the WHOIS needs of all the TLDs operated by Neustar,
including the .BOOK registry.

27. Registration Life Cycle

27.1 Registration Life Cycle
Introduction
.BOOK will follow the lifecycle and business rules found in the majority of gTLDs
today. Our back-end operator, Neustar, has over ten years of experience managing
numerous TLDs that utilize standard and unique business rules and lifecycles.
This section describes the business rules, registration states, and the overall
domain lifecycle that will be used for .BOOK.
Domain Lifecycle - Description
The registry will use the EPP 1.0 standard for provisioning domain names, contacts
and hosts. Each domain record is comprised of three registry object types:
domain, contacts, and hosts

Domains, contacts and hosts may be assigned various EPP defined statuses indicating either a particular state or restriction placed on the object. Some statuses may be applied by the Registrar; other statuses may only be applied by the Registry. Statuses are an integral part of the domain lifecycle and serve the dual purpose of indicating the particular state of the domain and indicating any restrictions placed on the domain. The EPP standard defines 17 statuses, however only 14 of these statuses will be used in the .BOOK registry per the defined .BOOK business rules.

The following is a brief description of each of the statuses. Server statuses may only be applied by the Registry, and client statuses may be applied by the Registrar.

 OK — Default status applied by the Registry.

 Inactive — Default status applied by the Registry if the domain has less than 2 nameservers.

 PendingCreate — Status applied by the Registry upon processing a successful Create command, and indicates further action is pending. This status will not be used in the .BOOK registry.

 PendingTransfer — Status applied by the Registry upon processing a successful Transfer request command, and indicates further action is pending.

 PendingDelete — Status applied by the Registry upon processing a successful Delete command that does not result in the immediate deletion of the domain, and indicates further action is pending.

 PendingRenew — Status applied by the Registry upon processing a successful Renew command that does not result in the immediate renewal of the domain, and indicates further action is pending. This status will not be used in the .BOOK registry.

 PendingUpdate — Status applied by the Registry if an additional action is expected to complete the update, and indicates further action is pending. This status will not be used in the .BOOK registry.

 Hold — Removes the domain from the DNS zone.

 UpdateProhibited — Prevents the object from being modified by an Update command.

 TransferProhibited — Prevents the object from being transferred to another Registrar by the Transfer command.

 RenewProhibited — Prevents a domain from being renewed by a Renew command.

 DeleteProhibited — Prevents the object from being deleted by a Delete command.

The lifecycle of a domain begins with the registration of the domain. All registrations must follow the EPP standard, as well as the specific business rules described in the response to Question 18 above. Upon registration a domain will either be in an active or inactive state. Domains in an active state are delegated and have their delegation information published to the zone. Inactive domains either have no delegation information or their delegation information in not published in the zone. Following the initial registration of a domain, one of five actions may occur during its lifecycle:

 Domain may be updated

 Domain may be deleted, either within or after the add-grace period

 Domain may be renewed at anytime during the term

 Domain may be auto-renewed by the Registry

 Domain may be transferred to another registrar.

Each of these actions may result in a change in domain state. This is described in more detail in the following section. Every domain must eventually be renewed, auto-renewed, transferred, or deleted.   A registrar may apply EPP statuses described above to prevent specific actions such as updates, renewals, transfers, or deletions.

27.1.1 Registration States
Domain Lifecycle — Registration States

 As described above the .BOOK registry will implement a standard domain lifecycle found in most gTLD registries today. There are five possible domain states:

 Active

 Inactive

 Locked

 Pending Transfer

            Pending Delete.

All domains are always in either an Active or Inactive state, and throughout the course of the lifecycle may also be in a Locked, Pending Transfer, and Pending Delete state. Specific conditions such as applied EPP policies and registry business rules will determine whether a domain can be transitioned between states. Additionally, within each state, domains may be subject to various timed events such as grace periods, and notification periods.

Active State

The active state is the normal state of a domain and indicates that delegation data has been provided and the delegation information is published in the zone. A domain in an Active state may also be in the Locked or Pending Transfer states.

Inactive State

The Inactive state indicates that a domain has not been delegated or that the delegation data has not been published to the zone. A domain in an Inactive state may also be in the Locked or Pending Transfer states. By default all domain in the Pending Delete state are also in the Inactive state.

Locked State

The Locked state indicates that certain specified EPP transactions may not be performed to the domain. A domain is considered to be in a Locked state if at least one restriction has been placed on the domain; however up to eight restrictions may be applied simultaneously. Domains in the Locked state will also be in the Active or Inactive, and under certain conditions may also be in the Pending Transfer or Pending Delete states.

Pending Transfer State

The Pending Transfer state indicates a condition in which there has been a request to transfer the domain from one registrar to another. The domain is placed in the Pending Transfer state for a period of time to allow the current (losing) registrar to approve (ack) or reject (nack) the transfer request. Registrars may only nack requests for reasons specified in the Inter-Registrar Transfer Policy.

Pending Delete State

The Pending Delete State occurs when a Delete command has been sent to the Registry after the first 5 days (120 hours) of registration. The Pending Delete period is 35-days during which the first 30-days the name enters the Redemption Grace Period (RGP) and the last 5-days guarantee that the domain will be purged from the Registry Database and available to public pool for registration on a first come, first serve basis.

27.1.2 Typical Registration Lifecycle Activities

Domain Creation Process

The creation (registration) of domain names is the fundamental registry operation. All other operations are designed to support or compliment a domain creation. The following steps occur when a domain is created.

1.   Contact objects are created in the SRS database.   The same contact object may be used for each contact type, or they may all be different. If the contacts already exist in the database this step may be skipped.

2.   Nameservers are created in the SRS database.   Nameservers are not required to complete the registration process; however any domain with less than 2 name servers will not be resolvable.

3.   The domain is created using the each of the objects created in the previous steps. In addition, the term and any client statuses may be assigned at the time of creation.

The actual number of EPP transactions needed to complete the registration of a domain name can be as few as one and as many as 40. The latter assumes seven distinct contacts and 13 nameservers, with Check and Create commands submitted for each object.

Update Process

Registry objects may be updated (modified) using the EPP Modify operation. The Update transaction updates the attributes of the object.

For example, the Update operation on a domain name will only allow the following attributes to be updated:

        Domain statuses

        Registrant ID

        Administrative Contact ID

        Billing Contact ID

        Technical Contact ID

        Nameservers

- AuthInfo
- Additional Registrar provided fields.

The Update operation will not modify the details of the contacts. Rather it may be used to associate a different contact object (using the Contact ID) to the domain name. To update the details of the contact object the Update transaction must be applied to the contact itself. For example, if an existing registrant wished to update the postal address, the Registrar would use the Update command to modify the contact object, and not the domain object.

Renew Process

The term of a domain may be extended using the EPP Renew operation. ICANN policy general establishes the maximum term of a domain name to be 10 years, and Neustar recommends not deviating from this policy. A domain may be renewed⁄extended at any point time, even immediately following the initial registration. The only stipulation is that the overall term of the domain name may not exceed 10 years. If a Renew operation is performed with a term value will extend the domain beyond the 10 year limit, the Registry will reject the transaction entirely.

Transfer Process

The EPP Transfer command is used for several domain transfer related operations:

- Initiate a domain transfer
- Cancel a domain transfer
- Approve a domain transfer
- Reject a domain transfer.

To transfer a domain from one Registrar to another the following process is followed:

4.   The gaining (new) Registrar submits a Transfer command, which includes the AuthInfo code of the domain name.

5.   If the AuthInfo code is valid and the domain is not in a status that does not allow transfers the domain is placed into pendingTransfer status

6.   A poll message notifying the losing Registrar of the pending transfer is sent to the Registrar's message queue

7.   The domain remains in pendingTransfer status for up to 120 hours, or until the losing (current) Registrar Acks (approves) or Nack (rejects) the transfer request

8.   If the losing Registrar has not Acked or Nacked the transfer request within the 120 hour timeframe, the Registry auto-approves the transfer

9.   The requesting Registrar may cancel the original request up until the transfer has been completed.

A transfer adds an additional year to the term of the domain. In the event that a transfer will cause the domain to exceed the 10 year maximum term, the Registry will add a partial term up to the 10 year limit.   Unlike with the Renew operation, the Registry will not reject a transfer operation.

Deletion Process

A domain may be deleted from the SRS using the EPP Delete operation.   The Delete operation will result in either the domain being immediately removed from the database or the domain being placed in pendingDelete status.   The outcome is dependent on when the domain is deleted. If the domain is deleted within the first five days (120 hours) of registration, the domain is immediately removed from the database. A deletion at any other time will result in the domain being placed in pendingDelete status and entering the Redemption Grace Period (RGP). Additionally, domains that are deleted within five days (120) hours of any billable (add, renew, transfer) transaction may be deleted for credit.

27.1.3 Applicable Time Elements

The following section explains the time elements that are involved.

Grace Periods

There are six grace periods:

- Add-Delete Grace Period (AGP)
- Renew-Delete Grace Period
- Transfer-Delete Grace Period
- Auto-Renew-Delete Grace Period
- Auto-Renew Grace Period
- Redemption Grace Period (RGP).

The first four grace periods listed above are designed to provide the Registrar with the ability to cancel a revenue transaction (add, renew, or transfer) within a certain period of time and receive a credit for the original transaction.

The following describes each of these grace periods in detail.
Add-Delete Grace Period
The APG is associated with the date the Domain was registered. Domains may be
deleted for credit during the initial 120 hours of a registration, and the
Registrar will receive a billing credit for the original registration. If the
domain is deleted during the Add Grace Period, the domain is dropped from the
database immediately and a credit is applied to the Registrar's billing account.
Renew-Delete Grace Period
The Renew-Delete Grace Period is associated with the date the Domain was renewed.
Domains may be deleted for credit during the 120 hours after a renewal. The grace
period is intended to allow Registrars to correct domains that were mistakenly
renewed. It should be noted that domains that are deleted during the renew grace
period will be placed into pendingDelete and will enter the RGP (see below).
Transfer-Delete Grace Period
The Transfer-Delete Grace Period is associated with the date the Domain was
transferred to another Registrar. Domains may be deleted for credit during the 120
hours after a transfer. It should be noted that domains that are deleted during
the renew grace period will be placed into pendingDelete and will enter the RGP.
A deletion of domain after a transfer is not the method used to correct a transfer
mistake. Domains that have been erroneously transferred or hijacked by another
party can be transferred back to the original registrar through various means
including contacting the Registry.
Auto-Renew-Delete Grace Period
The Auto-Renew-Delete Grace Period is associated with the date the Domain was
auto-renewed. Domains may be deleted for credit during the 120 hours after an
auto-renewal. The grace period is intended to allow Registrars to correct domains
that were mistakenly auto-renewed. It should be noted that domains that are
deleted during the auto-renew delete grace period will be placed into
pendingDelete and will enter the RGP.
Auto-Renew Grace Period
The Auto-Renew Grace Period is a special grace period intended to provide
registrants with an extra amount of time, beyond the expiration date, to renew
their domain name.   The grace period lasts for 45 days from the expiration date
of the domain name. Registrars are not required to provide registrants with the
full 45 days of the period.
Redemption Grace Period
The RGP is a special grace period that enables Registrars to restore domains that
have been inadvertently deleted but are still in pendingDelete status within the
Redemption Grace Period. All domains enter the RGP except those deleted during
the AGP.
The RGP period is 30 days, during which time the domain may be restored using the
EPP RenewDomain command as described below. Following the 30day RGP period the
domain will remain in pendingDelete status for an additional five days, during
which time the domain may NOT be restored. The domain is released from the SRS,
at the end of the 5 day non-restore period. A restore fee applies and is detailed
in the Billing Section. A renewal fee will be automatically applied for any
domain past expiration.
Neustar has created a unique restoration process that uses the EPP Renew
transaction to restore the domain and fulfill all the reporting obligations
required under ICANN policy. The following describes the restoration process.
27.2 State Diagram
Figure 27-1 provides a description of the registration lifecycle.

The different states of the lifecycle are active, inactive, locked, pending
transfer, and pending delete. Please refer to section 27.1.1 for detail
description of each of these states. The lines between the states represent
triggers that transition a domain from one state to another.

The details of each trigger are described below:
☐   Create: Registry receives a create domain EPP command.
☐   WithNS: The domain has met the minimum number of nameservers required by
registry policy in order to be published in the DNS zone.
☐   WithOutNS: The domain has not met the minimum number of nameservers

required by registry policy. The domain will not be in the DNS zone.
     Remove Nameservers: Domain's nameserver(s) is removed as part of an update
domain EPP command. The total nameserver is below the minimum number of
nameservers required by registry policy in order to be published in the DNS zone.
     Add Nameservers: Nameserver(s) has been added to domain as part of an
update domain EPP command. The total number of nameservers has met the minimum
number of nameservers required by registry policy in order to be published in the
DNS zone.
     Delete: Registry receives a delete domain EPP command.
     DeleteAfterGrace: Domain deletion does not fall within the add grace
period.
     DeleteWithinAddGrace: Domain deletion falls within add grace period.
     Restore: Domain is restored. Domain goes back to its original state
prior to the delete command.
     Transfer: Transfer request EPP command is received.
     Transfer Approve∕Cancel∕Reject: Transfer requested is approved or cancel
or rejected.
     TransferProhibited: The domain is in clientTransferProhibited and∕or
serverTranferProhibited status. This will cause the transfer request to fail.
The domain goes back to its original state.
     DeleteProhibited: The domain is in clientDeleteProhibited and∕or
serverDeleteProhibited status. This will cause the delete command to fail. The
domain goes back to its original state.
Note: the locked state is not represented as a distinct state on the diagram as a
domain may be in a locked state in combination with any of the other states:
inactive, active, pending transfer, or pending delete.
27.2.1 EPP RFC Consistency
As described above, the domain lifecycle is determined by ICANN policy and the EPP
RFCs. Neustar has been operating ICANN TLDs for the past 10 years consistent and
compliant with all the ICANN policies and related EPP RFCs.
27.3 Resources
The registration lifecycle and associated business rules are largely determined by
policy and business requirements; as such the Product Management and Policy teams
will play a critical role in working with Amazon EU S.à r.l. to determine the
precise rules that meet the requirements of the TLD. Implementation of the
lifecycle rules will be the responsibility of Development∕Engineering team, with
testing performed by the Quality Assurance team.   Neustar's SRS implementation
is very flexible and configurable, and in many case development is not required to
support business rule changes.
The .BOOK registry will be using standard lifecycle rules, and as such no
customization is anticipated. However should modifications be required in the
future, the necessary resources will be pulled from the pool of available
resources described in detail in the response to Question 31. The following
resources are available from those teams:
Development∕Engineering — 19 employees
Registry Product Management — 4 employees
These resources are more than adequate to support the development needs of all the
TLDs operated by Neustar, including the .BOOK registry.

28. Abuse Prevention and Mitigation

28.1 Abuse Prevention and Mitigation
Amazon EU S.à r.l. and its registry service provider, Neustar, recognize that
preventing and mitigating abuse and malicious conduct in the .BOOK registry is an
important and significant responsibility. Amazon EU S.à r.l. will leverage
Neustar's extensive experience in establishing and implementing registration
policies to prevent and mitigate abusive and malicious domain activity within the
proposed .BOOK space.
.BOOK will be a single entity registry, with all domains registered to Amazon for
use in pursuit of Amazon's business goals. There will be no re-sellers in .BOOK
and there will be no market in .BOOK domains. Amazon will strictly control the use
of .BOOK domains. Opportunities for abusive and malicious domain activity in .BOOK

are therefore very restricted but we will nonetheless abide by our obligations to ICANN. A responsible domain name registry works towards the eradication of abusive domain name registrations and malicious activity, which may include conduct such as:

- Illegal or fraudulent actions
- Spam
- Phishing
- Pharming
- Distribution of malware
- Fast flux hosting
- Botnets
- Malicious hacking
- Distribution of child pornography
- Online sale or distribution of illegal pharmaceuticals.

By taking an active role in researching and monitoring abusive domain name registration and malicious conduct, Neustar has developed the ability to efficiently work with various law enforcement and security communities to mitigate fast flux DNS-using botnets.

Policies and Procedures to Minimize Abusive Registrations

A registry must have the policies, resources, personnel, and expertise in place to combat such abusive registration and malicious conduct. Neustar, Amazon EU S.à r.l.'s registry services provider, has played a leading role in preventing of such abusive practices, and has developed and implemented a "domain takedown" policy. Amazon EU S.à r.l. also believes that combating abusive use of the DNS is important in protecting registrants.

Removing a domain name from the DNS before it can cause harm is often the best preventative measure for thwarting certain malicious conduct such as botnets and malware distribution. Because removing a domain name from the zone will stop all activity associated with the domain name, including websites and e-mail, the decision to remove a domain name from the DNS must follow a documented process, culminating in a determination that the domain name to be removed poses a threat to the security and stability of the Internet or the registry. Amazon EU S.à r.l., via Neustar, has an extensive, defined, and documented process for taking the necessary action of removing a domain from the zone when its presence in the zone poses a threat to the security and stability of the infrastructure of the Internet or the registry.

Abuse Point of Contact

As required by the Registry Agreement, Amazon EU S.à r.l. will establish and publish on its website a single abuse point of contact responsible for addressing inquiries from law enforcement and the public related to malicious and abusive conduct. Amazon EU S.à r.l. will also provide such information to ICANN before delegating any domain names in .BOOK. This information shall consist of, at a minimum, a valid e-mail address dedicated solely to the handling of malicious conduct complaints, and a telephone number and mailing address for the primary contact. Amazon EU S.à r.l. will ensure that this information is accurate and current, and that updates are provided to ICANN if and when changes are made. In addition, the registry services provider for .BOOK, Neustar, shall continue to have an additional point of contact for requests from registrars related to abusive domain name practices.

28.2 Policies Regarding Abuse Complaints

Amazon EU S.à r.l. will adopt an Acceptable Use Policy that (i) clearly defines the types of activities that will not be permitted in .BOOK; (ii) reserves Amazon EU S.à r.l.'s right to lock, cancel, transfer or otherwise suspend or take down domain names violating the Acceptable Use Policy; and (iii) identify the circumstances under which Amazon EU S.à r.l. may share information with law enforcement. Amazon EU S.à r.l. will incorporate its .BOOK Acceptable User Policy into its Registry-Registrar Agreement.

Under the .BOOK Acceptable Use Policy, which is set forth below, Amazon EU S.à r.l. may lock down the domain name to prevent any changes to the domain name contact and nameserver information, place the domain name "on hold" rendering the domain name non-resolvable, transfer the domain name to another registrar and⁄or in cases in which the domain name is associated with an ongoing law enforcement investigation, Amazon EU S.à r.l. will coordinate with law enforcement to assist

in the investigation as described in more detail below.

It is Amazon EU S.à r.l.'s intention that all .BOOK domain names will be registered and used by it and its Affiliates and that only ICANN-accredited registrars that have signed a Registry-Registrar Agreement will be permitted to register .BOOK domain names. Accordingly, the potential for abusive registrations and malicious conduct in the .BOOK registry is expected to be limited. In the unlikely event that such abuse should occur, Amazon EU S.à r.l. will work with its registry services provider, Neustar, to implement the following policies and processes to prevent and mitigate such activities. Below is initial Acceptable Use Policy for the .BOOK registry.

.BOOK Acceptable Use Policy

This Acceptable Use Policy gives the .BOOK registry the ability to quickly lock, cancel, transfer or take ownership of any .BOOK domain name, either temporarily or permanently, if the domain name is being used in a manner that appears to threaten the stability, integrity or security of the .BOOK registry, or any of its registrar partners — and⁄or that may put the safety and security of any registrant or user at risk. The process also allows the .BOOK registry to take preventive measures to avoid any such criminal or security threats.

The Acceptable Use Policy may be triggered through a variety of channels, including, among other things, private complaint, public alert, government or enforcement agency outreach, and the on-going monitoring by the .BOOK registry or its partners. In all cases, the .BOOK registry or its designees will alert .BOOK registry's registrar partners about any identified threats and will work closely with them to bring offending sites into compliance.

The following are some (but not all) activities that may be subject to rapid domain compliance:

 Phishing: the attempt to acquire personally identifiable information by masquerading as a website other than .BOOK's own.

 Pharming: the redirection of Internet users to websites other than those the user intends to visit, usually through unauthorized changes to the Hosts file on a victim's computer or DNS records in DNS servers.

 Dissemination of Malware: the intentional creation and distribution of "malicious" software designed to infiltrate a computer system without the owner's consent, including, without limitation, computer viruses, worms, key loggers, and Trojans.

 Fast Flux Hosting: a technique used to shelter Phishing, Pharming and Malware sites and networks from detection and to frustrate methods employed to defend against such practices, whereby the IP address associated with fraudulent websites are changed rapidly so as to make the true location of the sites difficult to find.

 Botnetting: the development and use of a command, agent, motor, service, or software which is implemented: (1) to remotely control the computer or computer system of an Internet user without their knowledge or consent, (2) to generate direct denial of service (DDOS) attacks.

 Malicious Hacking: the attempt to gain unauthorized access (or exceed the level of authorized access) to a computer, information system, user account or profile, database, or security system.

 Child Pornography: the storage, publication, display and⁄or dissemination of pornographic materials depicting individuals under the age of majority in the relevant jurisdiction.

The .BOOK registry reserves the right, in its sole discretion, to take any administrative and operational actions necessary, including the use of computer forensics and information security technological services, among other things, in order to implement the Acceptable Use Policy. In addition, the .BOOK registry reserves the right to deny, cancel or transfer any registration or transaction, or place any domain name(s) on registry lock, hold or similar status, that it deems necessary, in its discretion (1) to protect the integrity and stability of the registry; (2) to comply with any applicable laws, government rules or requirements, requests of law enforcement, or any dispute resolution process; (3) to avoid any liability, civil or criminal, on the part of the .BOOK registry as well as its affiliates, subsidiaries, officers, directors, and employees; (4) per the terms of the registration agreement, or (5) to correct mistakes made by the .BOOK registry or any Registrar in connection with a domain name registration. The .BOOK registry also reserves the right to place upon registry lock, hold or

similar status a domain name during resolution of a dispute.

Taking Action Against Abusive and/or Malicious Activity
The .BOOK registry is committed to acting in a timely manner against those domain names associated with abuse or malicious conduct in violation of the Acceptable Use Policy. After a complaint is received from a trusted source or third-party, or detected by the .BOOK registry, the registry will use commercially reasonable efforts to verify the information in the complaint. If that information can be verified to the best of the registry's ability, the sponsoring registrar will be notified and have 12 hours to investigate the activity and either (a) take down the domain name through a hold or deletion, or (b) provide the registry with a compelling argument why to keep the domain name in the zone. If the registrar has not acted when the 12-hour period ends (i.e., is unresponsive to the request or refuses to take action), the .BOOK registry will place the domain on "ServerHold". (It is unlikely the registrar will not timely act because Amazon EU S.à r.l. intends to use a single, gateway registrar with which it has a contract reflecting these policies). ServerHold removes the domain name from the .BOOK zone, but the domain name record still appears in the TLD WHOIS database so that the name and entities can be investigated by law enforcement should they desire to get involved.
Coordination with Law Enforcement
Amazon EU S.à r.l. will obtain assistance from Neustar to meet its obligations under Section 2.8 of the Registry Agreement to take reasonable steps to investigate and respond to reports from law enforcement and governmental and quasi-governmental agencies of illegal conduct in connection with the use of the .BOOK registry. The .BOOK registry will respond to legitimate law enforcement inquiries promptly upon receiving the request.

The response shall include, at a minimum, an acknowledgement of receipt of the request, questions or comments concerning the request, and an outline of the next steps to be taken by Amazon EU S.à r.l. for rapid resolution of the request. If the request involves any of the activities that can be validated by the registry and implicates activity covered by the .BOOK Acceptable Use Policy, the sponsoring registrar will have 12 hours to investigate the activity and either (a) take down the domain name through a hold or deletion, or (b) provide the registry with a compelling argument why to keep the domain name in the zone. The .BOOK Registry will place the domain on "ServerHold" if the registrar has not acted within the 12-hour period.
Monitoring for Malicious Activity
Neustar, .BOOK's registry services provider, has developed and implemented an active "domain takedown" policy in which the registry itself takes down abusive domain names.
Neustar targets domain names verified to be abusive and removes them within 12 hours regardless of whether the domain name registrar cooperated. Neustar has determined that the benefit in removing such threats outweighs any potential damage to the registrar/registrant relationship. Amazon EU S.à r.l.'s restrictions on registration eligibility make it unlikely that any .BOOK domains will be taken down. The .BOOK registry rules are anticipated to exclude third parties beyond Amazon EU S.à r.l. and its Affiliates. Moreover, only registrars that contractually agree to cooperate in stemming abusive behaviors will be permitted to register .BOOK domain names.
Neustar's active prevention policies stem from the notion that registrants in .BOOK have a reasonable expectation that they control the data associated with their domains, especially its presence in the DNS zone.   Removing a domain name from the DNS before it can cause harm is often the best preventative measure for thwarting certain malicious conduct such as botnets and malware distribution that harms not only the domain name registrant, but also potentially millions of unsuspecting Internet users.
Rapid Takedown Process
Since implementing the program, Neustar has developed two basic variations of the process. The more common process variation is a lightweight process that is triggered by "typical" notices. The less common variation is the full process that is triggered by unusual notices, which generally allege that a domain name is being used to threaten the stability and security of the TLD, or is part of a real-time investigation by law enforcement or security researchers. In these

cases, accelerated action by the registry is necessary. These processes are described below, though it is important to note that .BOOK will be managed as a single entity registry, whose registrants will be internal stakeholders of Amazon or Amazon's subsidiaries. Therefore, the potential for abusive registrations and other activities that have a negative impact on Internet users is minimal. In the unlikely event that such abuse should occur, Amazon with its registry operator, Neustar, will implement the following policies and processes to manage such activities.

Lightweight Process

In addition to having an active Information Security group that, on its own initiatives, seeks out abusive practices in the .BOOK registry, Neustar is an active member in a number of security organizations that have the expertise and experience in receiving and investigating reports of abusive DNS practices, including but not limited to, the Anti-Phishing Working Group, Castle Cops, NSP-SEC, the Registration Infrastructure Safety Group and others. Each of these sources is a well-known security organization that has a reputation for preventing abuse and malicious conduct on the Internet. Aside from these organizations, Neustar also actively participates in privately run security associations that operate based on trust and anonymity, making it much easier to obtain information regarding abusive DNS activity.

Once a complaint is received from a trusted source or third-party, or detected by Neustar's internal security group, information about the abusive practice is forwarded to an internal mail distribution list that includes members of Neustar's operations, legal, support, engineering, and security teams for immediate response ("CERT Team"). Although the impacted URL is included in the notification e-mail, the CERT Team is trained not to investigate the URLs themselves because the URLs in question often have scripts, bugs, etc. that can compromise the individual's own computer and the network safety. Rather, the investigation is conducted by CERT team members who can access the URLs in a laboratory environment to avoid compromising the Neustar network. The lab environment is designed specifically for these types of tests and is scrubbed on a regular basis to ensure that none of Neustar's internal or external network elements are harmed in any fashion.

Once the complaint has been reviewed and the alleged abusive domain name activity is verified to the best of the ability of the CERT Team, the sponsoring registrar has 12 hours to investigate the activity and either (a) take down the domain name through a hold or deletion, or (b) provide the registry with a compelling argument why to keep the domain name in the zone.

The .BOOK Registry will place the domain on "ServerHold" if the registrar has not acted within the 12-hour period.

ServerHold removes the domain name from the .BOOK zone, but the domain name record still appears in the TLD WHOIS database so that the name and entities can be investigated by law enforcement.

Full Process

In the unlikely event with a single entity registry, whose registrants will be internal stakeholders of Amazon or Amazon's subsidiaries, that Neustar receives a complaint that claims that a domain name is being used to threaten the stability and security of the .BOOK registry, or is a part of a real-time investigation by law enforcement or security, Neustar follows a slightly different course of action.

Upon initiation of this process, members of the CERT Team are paged and a teleconference bridge is immediately opened up for the CERT Team to assess whether the activity warrants immediate action. If the CERT Team determines the incident is not an immediate threat to the security and the stability of critical Internet infrastructure, the CERT Team provides documentation to the Neustar Network Operations Center to clearly capture the rationale for the decision and either refers the incident to the Lightweight process set forth above or closes the incident.

However, if the CERT TEAM determines that there is a reasonable likelihood that the incident warrants immediate action, a determination is made to immediately remove the domain from the zone. As such, Customer Support will contact Amazon EU S.à r.l.'s registrar immediately to communicate that there is a domain involved in a security and stability issue. The registrar is provided only the domain name in question and the broadly stated type of incident. As .BOOK is a Single Entity Registry using a single registrar whose work will be strictly controlled through a Service Level Agreement that includes the implementation of measures to prevent

abusive registrations, the risk of evidence of abuse being compromised is minimized. Coordination with Law Enforcement & Industry Groups

Neustar has a close working relationship with a number of law enforcement agencies, both in the United States and Internationally. For example, in the United States, Neustar is in constant communication with the Federal Bureau of Investigation, US CERT, Homeland Security, the Food and Drug Administration, and the National Center for Missing and Exploited Children.

Neustar also participates in a number of industry groups aimed at sharing information among key industry players about the abusive registration and use of domain names. These groups include the Anti-Phishing Working Group and the Registration Infrastructure Safety Group (where Neustar served for several years on the Board of Directors). Through these organizations and others, Neustar proactively shares information with other registries, registrars, ccTLDs, law enforcement, security professionals, etc. not only on abusive domain name registrations within its own TLDs, but also with respect to information uncovered with respect to domain names in other registries' TLDs. Neustar has often found that rarely are abuses found only in the TLDs for which it manages, but also within other TLDs, such as .com and .info. Neustar routinely provides this information to the other registries so that the relevant registry can take the appropriate action.

With the assistance of Neustar as its registry services provider, Amazon EU S.à r.l. can meet its obligations under Section 2.8 of the Registry Agreement to take reasonable steps to investigate and respond to reports from law enforcement and governmental and quasi-governmental agencies of illegal conduct in connection with the use of its .BOOK registry. Amazon EU S.à r.l. and⁄or Neustar will respond to legitimate law enforcement inquiries promptly upon receiving the request. Such response shall include, at a minimum, an acknowledgement of receipt of the request, questions or comments concerning the request, and an outline of the next steps to be taken by Amazon EU S.à r.l. and⁄or Neustar for rapid resolution of the request.

If the request involves any of the activities that can be validated by the registry and⁄or Neustar and implicates the type of activity set forth in the Acceptable Use Policy, the sponsoring registrar will have 12 hours to investigate the activity further and either (a) take down the domain name through a hold or deletion, or (b) provide the registry with a compelling argument why to keep the domain name in the zone. The .BOOK registry will place the domain on "ServerHold" if the registrar has not acted within the 12-hour period.

28.3 Measures for Removal of Orphan Glue Records

As the Security and Stability Advisory Committee of ICANN (SSAC) rightly acknowledges, although orphaned glue records may be used for abusive or malicious purposes, the "dominant use of orphaned glue supports the correct and ordinary operation of the DNS." See http:⁄⁄www.icann.org⁄en⁄committees⁄security⁄sac048.pdf.

While orphan glue often support correct and ordinary operation of the DNS, such glue records can be used maliciously to point to name servers that host domains used in illegal phishing, bot-nets, malware, and other abusive behaviors. Problems occur when the parent domain of the glue record is deleted but its children glue records still remain in DNS. Therefore, when the .BOOK registry has written evidence of actual abuse of orphaned glue, the .BOOK registry will act to remove those records from the zone to mitigate such malicious conduct.

Neustar runs a daily audit of entries in its DNS systems and compares those with its provisioning system, which serves as an umbrella protection that items in the DNS zone are valid. Any DNS record that shows up in the DNS zone but not in the provisioning system is flagged for investigation and removed if necessary. This daily DNS audit prevents not only orphaned hosts but also other records that should not be in the zone.

In addition, if either Amazon EU S.à r.l. or Neustar becomes aware of actual abuse on orphaned glue after receiving written notification from a third party through its Abuse Contact or through its customer support, such glue records will be removed from the zone.

28.4 Measures to Promote WHOIS Accuracy

The .BOOK registry will implement several measures to promote Whois accuracy. Whois service for Amazon EU S.à r.l. will operate as follows. The registry will keep all basic contact details for each domain name in a unique internal system,

which facilitates access to the domain information. In addition, Amazon EU S.à
r.l. will perform internal monitoring checks and procedures that will only allow
accurate Whois information and remove outdated data.

28.4.1. Authentication of Registrant Information
Amazon EU S.à r.l. will guarantee the adequate authentication of registrant data,
ensuring the highest levels of accuracy and diligence when dealing with Whois
data. In doing so, Amazon EU S.à r.l.'s solid internal system will undertake, but
not be limited to the following measures: running checks against Whois internal
records and regular verification of all contact details and other relevant
registrant information. The Amazon EU S.à r.l.'s registrar will also be charged
with regularly checking Whois accuracy.
Amazon EU S.à r.l. will have a well-defined registration policy that will include
a requirement that complete and accurate registrant details are provided by the
requestor for a domain. These details will be validated by the Amazon EU S.à r.l.
registrar who will have a contractual duty to comply with Amazon EU S.à r.l.'s
registration policy. The full details of every domain requestor will be kept in
Amazon EU S.à r.l.'s on-line registry management dashboard which can be accessed
by Amazon EU S.à r.l.'s Domain Management Team at any time.

28.4.2. Regular Monitoring of Registration Data
Amazon EU S.à r.l. will comply with ICANN's Whois requirements. Among other
measures, Amazon EU S.à r.l. will regularly remind its internal personnel to
comply with ICANN's Whois information Policy through regularly checking Whois data
against internal records, offering Whois accuracy services, evaluating claims of
fraudulent Whois data, and cancelling domain name registrations with outdated
Whois details.

28.4.3. Policies and Procedures ensuring compliance
Only Amazon EU S.à r.l. and its Affiliates will be permitted to register and use
Amazon EU S.à r.l. domain names. Accordingly, the duties of the Amazon EU S.à
r.l. registrar will be very limited and closely defined. Regardless, Amazon EU
S.à r.l.'s Registry-Registrar Agreement will require Amazon EU S.à r.l.'s
registrar to take steps necessary to ensure Whois data is complete and accurate
and to implement the .BOOK registration policies.

28.5 Resourcing Plans
Responsibility for abuse mitigation rests with a variety of functional groups at
Neustar. The Neustar Abuse Monitoring team is primarily responsible for providing
analysis and conducting investigations of reports of abuse. The Neustar Customer
Service team also plays an important role in assisting with investigations,
responding to customers, and notifying registrars of abusive domains. Finally,
the Neustar Policy⁄Legal team is responsible for developing the relevant policies
and procedures.
The necessary resources will be pulled from the pool of available resources
described in detail in the response to Question 31. The following resources are
available from those teams:
Customer Support – 12 employees
Policy⁄Legal – Two employees
The resources are more than adequate to support the abuse mitigation procedures of
the .BOOK registry.
Furthermore, Amazon EU S.à r.l. dedicates significant financial and personnel
resources to combating malicious and abusive behavior in the DNS and across the
internet. Amazon EU S.à r.l. will extend these resources to designating the
unique abuse point of contact, regularly monitoring potential abusive and
malicious activities with support from dedicated technical staff, analyzing
reported abuse and malicious activity, and acting to address such reported
activity.
The designated abuse prevention staff within Neustar and Amazon EU S.à r.l. will
be subject to regular evaluations, receive adequate training and work under expert
supervision. The abuse prevention resources will comprise both internal staff and
external abuse prevention experts who would give extra advice and support when
necessary. This external staff includes experts in Amazon EU S.à r.l.'s registrar
where one legal manager and four operational experts will be available to support

Amazon EU S.à r.l.

Please note that in the above answer the terms "We", "Our" and "Amazon" may refer to either the applicant Amazon EU S.à r.l. or Amazon.com Inc., the ultimate parent, or sometimes NeuStar, the registry services provider.

29. Rights Protection Mechanisms

29.1 Introduction
Amazon is applying for .BOOK to provide a dedicated platform for stable and secure online communication and interaction. Amazon has several thousand registered intellectual property assets of all types including trademarks, designs, and domain names — we place the protection of our intellectual property as a high priority and we respect the intellectual property of others.
29.1.1 Rights protection in gTLD registry operation is a core objective of Amazon
We will closely manage this TLD by registering domains through a single registrar. Although Amazon and its subsidiaries will be the only eligible registrants, we will nonetheless require our registrar to work with us on a four-step registration process featuring: (i) Eligibility Confirmation; (ii) Naming Convention Check; (iii) Acceptable Use Review; and (iv) Registration. As stated in our answer to Question 18, all domains in our registry will remain the property of Amazon and will be provisioned to support the business goals of Amazon. Because all domains will be registered and maintained by Amazon (for use that complements our strategic business goals), we can ensure that all domains in our registries will carry accurate and up-to-date registration records.
We believe that the above registration process will ensure that abusive registrations are prevented, but we will continue to monitor ICANN policy developments, and update our procedures as required.
29.2   Core measures to prevent abusive registrations
To further prevent abusive registration or cybersquatting, we will adopt the following Rights Protection Mechanisms (RPMs) which have been mandated for new gTLD operators by ICANN:
•   A 30 day Sunrise process
•   A 60 day Trademark Claims process

Generally, these RPMs are targeted at abusive registrations undertaken by third parties. However, domains in our registry will be registered only to Amazon or its subsidiaries through a single registrar who will be contractually required to ensure that stated rules covering eligibility and use of a domain are adhered to through a validation process. As a result, abusive registrations should be prevented.
In the very unlikely circumstances that a domain is registered and used in an improper way, we acknowledge that we will be the respondent in related proceedings and we undertake to co-operate fully with ICANN and other appropriate agencies to resolve any concerns.
29.2.1 Sunrise Eligibility
Our Sunrise Eligibility Requirements will clearly state that eligible applicants must be members of the Amazon group of companies and its subsidiaries. Furthermore, all domain names must be used to support the business goals of Amazon. Nonetheless, notice of our Sunrise will be provided to third party holders of validated trademarks in the Trademark Clearinghouse as required by ICANN. Our Sunrise Eligibility Requirements will be published on the website of our registry.
29.2.2 Sunrise Window
As required in the Applicant Guidebook in section 7.1, our Sunrise window will recognize "all word marks: (i) nationally or regionally registered and for which proof of use — which can be a declaration and a single specimen of current use — was submitted to, and validated by, the Trademark Clearinghouse; or (ii) that have been court-validated; or (iii) that are specifically protected by a statute or treaty currently in effect and that was in

effect on or before 26 June 2008".

Our Sunrise window will last for 30 days. Applications received from an ICANN-
accredited registrar will be accepted for registration if they are (i) supported
by an entry in the Trademark Clearinghouse (TMCH) during our Sunrise window and
(ii) satisfy our Sunrise Eligibility Requirements. Once registered, those domain
names will have a one year term of registration. Any domain names registered will
be managed by our registrar.
29.2.3   Sunrise Dispute Resolution Policy
We will devise and publish the rules for our Sunrise Dispute Resolution Policy
(SDRP) on our registry website. Our SDRP will apply to all our registries and
will allow any party to raise a challenge on the following four grounds as
required in the Applicant Guidebook (6.2.4):
(i) At the time the challenged domain name was registered, the registrant did not
hold a trademark registration of national effect (or regional effect) or the
trademark had not been court-validated or protected by statute or treaty;
(ii) The domain name is not identical to the mark on which the registrant based
its Sunrise registration;
(iii) The trademark registration on which the registrant based its Sunrise
registration is not of national effect (or regional effect) or the trademark had
not been court-validated or protected by statute or treaty; or
(iv) The trademark registration on which the domain name registrant based its
Sunrise registration did not issue on or before the effective date of the Registry
Agreement and was not applied for on or before ICANN announced the applications
received.

Complaints can be submitted through our registry website within 30 days following
the closure of the Sunrise, and will be initially processed by our registrar. Our
registrar will promptly report to us: (i) the challenger; (ii) the challenged
domain name; (iii) the grounds upon which the complaint is based; and (iv) why the
challenger believes the grounds are satisfied.
29.2.4   Trademark Claims Service
Our Trademark Claims Service (TMCS) will run for a 60 day period following the
closure of our 30 day Sunrise. Our TMCS will be supported by the Trademark
Clearinghouse and will provide a notice to third parties interested in filing a
character string in our registry of a registered trademark right that matches the
character string in the TMCH.
We will honour and recognize in our TMCS the following types of marks as defined
in the Applicant Guidebook section 7.1: (i) nationally or regionally registered;
(ii) court-validated; or (iii) specifically protected by a statute or treaty in
effect at the time the mark is submitted to the Clearinghouse for inclusion.

Once received from the TMCH, with which our registry provider will interface, a
claim will be initially processed by our registrar who will provide a report to us
on the eligibility of the applicant.
29.2.5   Implementation and Resourcing Plans of core services to prevent abusive
registration
Our Sunrise and IP Claims service will be introduced with the following timetable:
Day One: Announcement of Registry Launch and publication of registry website with
details of the Sunrise and Trademark Claim Service ("TMCS")
Day 30: Sunrise opens for 30 days on a first-come, first served basis. Once
registrations are approved, they will be entered into the Shared Registry System
(SRS) and published in our Thick-Whois database.
Day 60-75: Registry Open, domains applied for in the Sunrise registered and TMCS
begins for a minimum of 60 days
Day 120-135: TMCS ends; normal operations continue.
Our Implementation Team will comprise the following:
From Amazon: the Director of IP will lead a team of up to seven experts with
experience of domain name management and on-line legal dispute resolution, with
access to other teams in Amazon Legal if required.
From NeuStar, registry service provider to Amazon: A Customer Support team of 12,
a Product Management Team of four and a Development ⁄ Engineering Team of 19 will
be available as required to support the legal team, led by Jeff Neuman. This team
has over 10 years' experience with implementing registry launches including rights
protection schemes such as the .biz Sunrise and IP Claims.

In addition, Amazon will be supported by its Registrar which will provide two legal specialists, four client managers and six operational staff. The operational staff will undertake the validation checks on registration requests. The Implementation Team will create a formal Registry Launch plan by 1 October 2012. This plan will set out the exact process for the launch of each Amazon registry and will define responsibilities and budgets. The Registry website, which is budgeted for in the three year plans provided in our answers to Question 46, will be built by 1 December 2012 or within 30 days of pre-validation testing beginning, whichever is the sooner. It will feature Rules of Registration, Rules of Eligibility, Terms & Conditions of Registration, Acceptable Use Policies as well as the Rules of the Sunrise, the Rules of the Sunrise Dispute Resolution Policy and the Rules of the Trademark Claims Service.

Technical implementation between the registry and the Trademark Clearinghouse will be undertaken by the registry service provider as soon as practical after the Trademark Clearinghouse is operational and announces its integration process. As demonstrated in our answer to question 46, a budget has been set aside to pay fees charged by the Trademark Clearinghouse Operator for this integration.

The contract we have with our registrar (the RAA) will require that the registrar uses the TMCH, adheres to the Terms & Conditions of the TMCH and will prohibit the registrar from filing domains in our registries on its own behalf or utilizing any data from the TMCH except in the provision of its duties as our registrar.

When processing TMCS claims, our registrar will be required to use the specific form of notice provided by ICANN in the Applicant Guidebook.

We will also require our registrar to implement appropriate privacy policies reflecting local requirements. For example, Amazon is a participant in the Safe Harbor program developed by the U.S. Department of Commerce and the European Union.

29.3   Mechanisms to identify and address the abusive use of registered domain names on an ongoing basis

To prevent the abusive use of registered domain names on an ongoing basis we will adopt the following Rights Protection Mechanisms (RPMs) which have been mandated by ICANN:

- The Uniform Dispute Resolution Policy (UDRP) to address domain names that have been registered and used in bad faith in the TLD.
- The Uniform Rapid Suspension (URS) scheme which is a faster, more efficient alternative to the Uniform Dispute Resolution Policy to deal with clear-cut cases of cybersquatting.
- The Post Delegation Dispute Resolution Procedure (PDDRP).
- Implementation of a Thick WHOIS making it easier for rights holders to identify and locate infringing parties.

The UDRP and the URS are targeted at abusive registrations undertaken by third parties and the PDDRP at so called "Bad Actor" registries. As domains in our registry will be registered not to third parties but only to Amazon or its subsidiaries through a single registrar which will be required through contract to ensure that the rules covering eligibility and use of a domain are adhered to, we believe that abusive registrations by third parties should be completely prevented.

Abusive behaviour by representatives of Amazon or our subsidiaries will be prevented by our internal processes, for example the pre-registration validation checks and monitoring of use of our registrar.

We acknowledge that we are subject to the UDRP, the URS and the PDDRP and we will co-operate fully with ICANN and appropriate registries in the unlikely circumstances that complaints against us, as the registrant, are made.

29.3.1 The Uniform Dispute Resolution Policy (UDRP)

The UDRP is an out-of-court dispute resolution mechanism for trademark owners to resolve clear cases of bad faith, abusive registration and use of domain names. The UDRP applies by contract to all domain name registrations in gTLDs. Standing to file a UDRP complaint is limited to trademark owners who must demonstrate their rights. To prevail in a UDRP complaint, the complainant must further demonstrate that the domain name registrant has no rights or legitimate interests in the disputed domain name, and that the disputed domain name has been registered and is being used in bad faith. In the event of a successful claim, the infringing domain name registration is transferred to the complainant's control.

Amazon or its subsidiaries will be the respondent in all UDRP complaints because

we will be the only eligible registrants. Therefore we do not anticipate that there are any circumstances in which complainants can argue that we have "no rights or legitimate interests" in a domain in our registry so the possibility of good faith UDRP complaints should be minimized. In the unlikely circumstances that a complaint is made, we will respond in a timely fashion, reflecting our contractual responsibility to ICANN as a registry operator.

We will be applying for an exemption to Clause 1b of the Registry Operators Code of Conduct. This means that we will not be allowed to transfer domains to third parties as the only registrant will be Amazon or our subsidiaries. Therefore if a complaint against us is filed, the only possible remedy will be the cancellation of the domain instead of the transfer to the complainant.

Should a successful complaint be made we will therefore place the cancelled domain that is the subject of the complaint on a list that prevents it from being registered again.

29.3.2 The URS

The URS is intended to be a lighter, quicker complement to the UDRP. Like the UDRP, it is intended for clear-cut cases of trademark abuse. Under the URS, the only remedy which a panel may grant is the temporary suspension of a domain name for the duration of the registration period (which may be extended by the prevailing complainant for one year, at commercial rates). URS substantive criteria mirror those of the UDRP but with a higher burden of proof for complainants, and additional registrant defences. Once a determination is rendered, a losing registrant has several appeal possibilities from 30 days up to one year. Either party may file a de novo appeal within 14 days of a decision. There are penalties for filing "abusive complaints" which may result in a ban on future URS filings.

As with the description of our UDRP process above, Amazon or its subsidiaries will be the respondent in all URS complaints because we will be the only eligible registrants. Therefore we do not anticipate that there are any circumstances in which complainants can argue that we have "no legitimate right or interest to the domain name" and "that the domain name was registered and is being used in bad faith." Notwithstanding this, should a complaint be made, we will respond in a timely fashion, reflecting our contractual responsibility to ICANN as a registry operator.

Should a successful complaint be made, we will suspend the domain name for the duration of the registration period.

We will co-operate with the URS panel providers and panelists as we will co-operate with UDRP panel providers and panelists.

Being the only eligible registrant, we will not make changes to a domain in Locked Status or alter a registration record associated with a URS complaint as required in the Applicant Guidebook.

29.3.3 The Post-Delegation Dispute Resolution Procedure (PDDRP)

The PDDRP is an administrative option for trademark owners to file an objection against a registry whose "affirmative conduct" in its operation or use of its gTLD is alleged to cause or materially contribute to trademark abuse. In this way, the PDDRP is intended to act as a higher-level enforcement tool to assist ICANN compliance activities, where rights holders may not be able to continue to turn solely to lower-level multijurisdictional enforcement options in a vastly expanded DNS.

The PDDRP involves a number of procedural layers, such as an administrative compliance review, appointment of a "threshold review panel", an expert determination as to liability under the procedure (with implementation of any remedies at ICANN's discretion), a possible de novo appeal and further appeal to arbitration under ICANN's registry terms. The PDDRP requires specific bad faith conduct including profit from encouraging infringement in addition to "the typical registration fee."

As set out in the Applicant Guidebook in the appendix summarising the PDDRP, the grounds for a complaint on a second level registration are that, "(a) there is a substantial pattern or practice of specific bad faith intent by the registry operator to profit from the sale of trademark infringing domain names; and (b) the registry operator's bad faith intent to profit from the systematic registration of domain names within the gTLD that are identical or confusingly similar to the complainant's mark, which (i) takes unfair advantage of the distinctive character or the reputation of the complainant's mark or (ii) impairs the distinctive character or the reputation of the complainant's mark, or(iii) creates a

likelihood of confusion with the complainant's mark."
Whilst we will co-operate with any complaints made under the PDDRP and we will
abide by any determinations, we think it is highly improbable that any PDDRP
complaints will succeed because the grounds set out above cannot be satisfied as
domains in the registry will not be for sale and cannot be transferred to third
parties.
29.3.4 Thick Whois
As required in Specification 4 of the Registry agreement, all Amazon registries
will provide Thick Whois. A Thick WHOIS provides a centralized location of
registrant information within the control of the registry (as opposed to thin
Whois where the data is dispersed across registrars).
Thick Whois will provide rights owners and law enforcement with the ability to
review the registration record easily.
We will place a requirement on our registrar to ensure that all registrations are
filed with accurate Whois details and we will undertake reviews of Whois accuracy
every three months to ensure that the integrity of data under our control is
maintained.
Amazon will create and publish a Whois Query email address so that third parties
can submit queries about any domains in our registry.
29.3.5 Implementation and Resourcing Plans for mechanisms to identify and address
the abusive use of registered domain names on an ongoing basis
Our post-launch rights protection mechanisms will be in place from Day One of the
launch of the registry.
To ensure that we are compliant with our obligations as a registry operator, we
will develop a section of our registry website to assist third parties involved in
UDRP, URS and PDDRP complaints including third parties wishing to make a
complaint, ICANN compliance staff and the providers of UDRP and URS panels. This
will feature an email address for enquiries relating to disputes or seeking
further information on specific domains. We will monitor this address for all of
the following: Notice of Complaint, Notice of Default, URS Determination, UDRP
Determination, Notice of Appeal and Appeal Panel Findings where appropriate.
As stated in our answer to Question 18, Amazon's Intellectual Property group will
be responsible for the development, maintenance and enforcement of the Domain
Management Policy. This will include ensuring that the following implementation
targets are met:
•   Locking domains that are the subject of URS complaints within 24 hours of
receipt of a URS complaint, and ensuring our registrar locks domains that are the
subject of UDRP complaints within 24 hours of receipt of a UDRP complaint.
•   Confirming the implementation of the lock to the relevant URS provider,
and ensure our registrar confirms the implementation of the lock to the relevant
UDRP provider.
•   Ensuring that our registrar cancels domain names that are the subject of a
successful UDRP complaint within 24 hours
•   Redirecting servers to a website with the ICANN mandated information
following a successful URS within 24 hours
The human resources dedicated to managing post-launch RPM include:
From Amazon: the Director of IP will lead a team of up to seven experts with
experience of domain name management and on-line legal dispute resolution, with
access to other teams in Amazon Legal if required.
From NeuStar, registry service provider to Amazon: A Customer Support team of 12,
a Product Management Team of four and a Development ⁄ Engineering Team of 19 will
be available as required to support the legal team, led by Jeff Neuman. This team
has over 10 years' experience with implementing registry launches including rights
protection schemes including the .biz Sunrise and IP Claims.
In addition, Amazon will be supported by its Registrar which will provide two
legal specialists, four client managers and six operational staff. The
operational staff will undertake the validation checks on registration requests.
We are confident that this staffing is more than adequate for a registry where the
only registrant is Amazon or its subsidiaries. Of course, should business goals
change requiring more resources, Amazon will closely review any expansion plans,
and plan for additional financial, technical, and team-member support to put the
Registry in the best position for success.
We will also require our registrar to implement appropriate privacy policies
reflecting the high standards that we operate. For information on our Privacy
Policies, please see:

http:⁄⁄www.amazon.com⁄gp⁄help⁄customer⁄display.html⁄ref=footer_privacy?
ie=UTF8&nodeId=468496

29.4   Additional Mechanism that exceed requirements

Rights protection is at the core of Amazon's objective in applying for this registry. Therefore we are committed to providing the following additional mechanisms:

29.4.1   Registry Legal Manager

Amazon will appoint a Legal Manager to ensure that we are compliant with ICANN policies. The Legal Manager will also handle all disputes relating to RPMs. This will involve evaluating complaints, working with external legal counsel and law enforcement, and resolving disputes. The Legal Manager will also liaise with external stakeholders including URS and UDRP panel providers, the TMCH operator and trademark holders as needed.

29.4.2   Rights Protection Help Line

Amazon will maintain a Rights Protection Help Line. Calls to this line will be allocated a Case Number and the following details will be recorded: (i) the contact details of the complainant; (ii) the domain name that is the subject of the complaint or query; (iii) the registered right, if any, that is associated with the request; and (iv) an explanation of the concerns.

An initial response to a query or complaint will be made within 24 hours. The Rights Protection Help Line will be in place on Day One of the registry. The cost of the Rights Help Line is reflected in the Projections Templates provided at Question 46 as part of on-going registry maintenance costs.

The aim of the Rights Protection Help Line is to assist third parties in understanding the mission and purpose of our registry and to see if a resolution can be found that is quicker and easier than the filing of a UDRP or URS complaint.

The Legal Manager will oversee the Rights Protection Help Line.

29.4.3   Registrar Accreditation

Amazon will audit the performance of our registrar every six months and re-validate our Registry-Registrar Agreements annually. Our audits will include site visits to ensure the security of data etc.

29.4.4   Audits of registration records

Every three months, whichever is the most of 250 or 2% of the total of domain names registered in that period will be reviewed by our registrar to ensure accurate registration records and use that is compliant with our Acceptable Use guidelines.

29.4.5   Maintenance of Registry Website

Amazon will create a website for all our registries and we will make it easy for third parties including representatives of law enforcement to contact us by featuring our full contact details (physical, email address and phone number).

29.4.6   Click Wrapping our Terms & Conditions

Although only Amazon and its subsidiaries can register domain names in our registry, we will bring to the attention of requestors of domain names the Terms & Conditions of registration and, especially, Acceptable Use terms through Click Wrapping.

29.4.7   Annual Report

Amazon will publish an Annual Report on Rights Protection in our registries on our Registry Website. This will include relevant statistics and it will outline all cases and how they were resolved.

29.4.8   Contacts with WIPO and other DRS providers

Amazon will invite representatives of WIPO and other DRS providers to review our RPM and to make suggestions on any improvements that we might make after the first full year of operation.

29.4.9   Registrant Pre-Verification

All requests for registration will be verified by our registrar to ensure that they come from a legitimate representative of Amazon or our subsidiaries. A record of the request will be kept in our on-line domain management console including the requestor's email address and other contact information.

29.4.10 Take down Procedures

Amazon has described Takedown Procedures for domains supporting Abusive Behaviours in Question 28. We think this is very unlikely in a registry where only Amazon or its subsidiaries are registrants but we will reserve the right to terminate a registration and to take down all associated services after a review by our Legal Manager if a takedown for reasons of rights protection is requested by law

enforcement, a representative of a court we recognise etc.
29.4.11 Speed of Response
Wherever possible, as outlined above, Amazon committed to a response within 24
hours of a complaint being made. This exceeds the guidelines for the UDRP and the
URS.
Please note that in the above answer the terms "We", "Our" and "Amazon" may refer
to either the applicant Amazon EU S.à r.l. or Amazon.com Inc., the ultimate
parent.

30(a). Security Policy: Summary of the security policy for the proposed registry

Amazon EU S.à r.l. and our back-end operator, Neustar, recognize the vital need to
secure the systems and the integrity of the data in commercial solutions.   The
.BOOK registry solution will leverage industry-best security practices including
the consideration of physical, network, server, and application elements.
Neustar's approach to information security starts with comprehensive information
security policies. These are based on the industry best practices for security
including SANS (SysAdmin, Audit, Network, Security) Institute, NIST (National
Institute of Standards and Technology), and Center for Internet Security (CIS).
Policies are reviewed annually by Neustar's information security team.
The following is a summary of the security policies that will be used in the .BOOK
registry, including:
1.   Summary of the security policies used in the registry operations
2.   Description of independent security assessments
3.   Description of security features that are appropriate for .BOOK
4.   List of commitments made to registrants regarding security levels

All of the security policies and levels described in this section are appropriate
for the .BOOK registry.
30.(a).1 Summary of Security Policies

Neustar, Inc. has developed a comprehensive Information Security Program in order
to create effective administrative, technical, and physical safeguards for the
protection of its information assets, and to comply with Neustar's obligations
under applicable law, regulations, and contracts. This Program establishes
Neustar's policies for accessing, collecting, storing, using, transmitting, and
protecting electronic, paper, and other records containing sensitive information.
The Program defines:
⬜   The policies for internal users and our clients to ensure the safe,
organized and fair use of information resources.
⬜   The rights that can be expected with that use.
⬜   The standards that must be met to effectively comply with policy.
⬜   The responsibilities of the owners, maintainers, and users of Neustar's
information resources.
⬜   Rules and principles used at Neustar to approach information security
issues

The following policies are included in the Program:
1.   Acceptable Use Policy
The Acceptable Use Policy provides the "rules of behavior" covering all Neustar
Associates for using Neustar resources or accessing sensitive information.
2.   Information Risk Management Policy
The Information Risk Management Policy describes the requirements for the on-going
information security risk management program, including defining roles and
responsibilities for conducting and evaluating risk assessments, assessments of
technologies used to provide information security and monitoring procedures used
to measure policy compliance.
3.   Data Protection Policy

The Data Protection Policy provides the requirements for creating, storing, transmitting, disclosing, and disposing of sensitive information, including data classification and labeling requirements, the requirements for data retention. Encryption and related technologies such as digital certificates are also covered under this policy.

4.   Third Party Policy

The Third Party Policy provides the requirements for handling service provider contracts, including specifically the vetting process, required contract reviews, and on-going monitoring of service providers for policy compliance.

5.   Security Awareness and Training Policy

The Security Awareness and Training Policy provide the requirements for managing the on-going awareness and training program at Neustar. This includes awareness and training activities provided to all Neustar Associates.

6.   Incident Response Policy

The Incident Response Policy provides the requirements for reacting to reports of potential security policy violations. This policy defines the necessary steps for identifying and reporting security incidents, remediation of problems, and conducting "lessons learned" post-mortem reviews in order to provide feedback on the effectiveness of this Program. Additionally, this policy contains the requirement for reporting data security breaches to the appropriate authorities and to the public, as required by law, contractual requirements, or regulatory bodies.

7.   Physical and Environmental Controls Policy

The Physical and Environment Controls Policy provides the requirements for securely storing sensitive information and the supporting information technology equipment and infrastructure. This policy includes details on the storage of paper records as well as access to computer systems and equipment locations by authorized personnel and visitors.

8.   Privacy Policy

Neustar supports the right to privacy, including the rights of individuals to control the dissemination and use of personal data that describes them, their personal choices, or life experiences. Neustar supports domestic and international laws and regulations that seek to protect the privacy rights of such individuals.

9.   Identity and Access Management Policy

The Identity and Access Management Policy covers user accounts (login ID naming convention, assignment, authoritative source) as well as ID lifecycle (request, approval, creation, use, suspension, deletion, review), including provisions for system⁄application accounts, shared⁄group accounts, guest⁄public accounts, temporary⁄emergency accounts, administrative access, and remote access. This policy also includes the user password policy requirements.

10.   Network Security Policy

The Network Security Policy covers aspects of Neustar network infrastructure and the technical controls in place to prevent and detect security policy violations.

11.   Platform Security Policy

The Platform Security Policy covers the requirements for configuration management of servers, shared systems, applications, databases, middle-ware, and desktops and laptops owned or operated by Neustar Associates.

12.   Mobile Device Security Policy

The Mobile Device Policy covers the requirements specific to mobile devices with information storage or processing capabilities. This policy includes laptop standards, as well as requirements for PDAs, mobile phones, digital cameras and music players, and any other removable device capable of transmitting, processing or storing information.

13.   Vulnerability and Threat Management Policy

The Vulnerability and Threat Management Policy provides the requirements for patch management, vulnerability scanning, penetration testing, threat management (modeling and monitoring) and the appropriate ties to the Risk Management Policy.

14.   Monitoring and Audit Policy

The Monitoring and Audit Policy covers the details regarding which types of computer events to record, how to maintain the logs, and the roles and responsibilities for how to review, monitor, and respond to log information. This policy also includes the requirements for backup, archival, reporting, forensics use, and retention of audit logs.

15.   Project and System Development and Maintenance Policy

The System Development and Maintenance Policy covers the minimum security

requirements for all software, application, and system development performed by or on behalf of Neustar and the minimum security requirements for maintaining information systems.

30. (a).2 Independent Assessment Reports
Neustar IT Operations is subject to yearly Sarbanes-Oxley (SOX), Statement on Auditing Standards #70 (SAS70) and ISO audits. Testing of controls implemented by Neustar management in the areas of access to programs and data, change management and IT Operations are subject to testing by both internal and external SOX and SAS70 audit groups. Audit Findings are communicated to process owners, Quality Management Group and Executive Management. Actions are taken to make process adjustments where required and remediation of issues is monitored by internal audit and QM groups.
External Penetration Test is conducted by a third party on a yearly basis. As authorized by Neustar, the third party performs an external Penetration Test to review potential security weaknesses of network devices and hosts and demonstrate the impact to the environment. The assessment is conducted remotely from the Internet with testing divided into four phases:
☐   A network survey is performed in order to gain a better knowledge of the network that was being tested
☐   Vulnerability scanning is initiated with all the hosts that are discovered in the previous phase
☐   Identification of key systems for further exploitation is conducted
☐   Exploitation of the identified systems is attempted.
Each phase of the audit is supported by detailed documentation of audit procedures and results. Identified vulnerabilities are classified as high, medium and low risk to facilitate management's prioritization of remediation efforts. Tactical and strategic recommendations are provided to management supported by reference to industry best practices.
30.(a).3 Augmented Security Levels and Capabilities
There are no increased security levels specific for .BOOK. However, Neustar will provide the same high level of security provided across all of the registries it manages.
A key to Neustar's Operational success is Neustar's highly structured operations practices. The standards and governance of these processes:
☐   Include annual independent review of information security practices
☐   Include annual external penetration tests by a third party
☐   Conform to the ISO 9001 standard (Part of Neustar's ISO-based Quality Management System)
☐   Are aligned to Information Technology Infrastructure Library (ITIL) and CoBIT best practices
☐   Are aligned with all aspects of ISO IEC 17799
☐   Are in compliance with Sarbanes-Oxley (SOX) requirements (audited annually)
☐   Are focused on continuous process improvement (metrics driven with product scorecards reviewed monthly).
A summary view to Neustar's security policy in alignment with ISO 17799 can be found in section 30.(a).4 below.
30.(a).4 Commitments and Security Levels
The .BOOK registry commits to high security levels that are consistent with the needs of the TLD. These commitments include:

Compliance with High Security Standards
☐   Security procedures and practices that are in alignment with ISO 17799
☐   Annual SOC 2 Audits on all critical registry systems
☐   Annual 3rd Party Penetration Tests
☐   Annual Sarbanes Oxley Audits

Highly Developed and Document Security Policies
☐   Compliance with all provisions described in section 30.(a).4 below and in the attached security policy document.
☐   Resources necessary for providing information security
☐   Fully documented security policies
☐   Annual security training for all operations personnel

High Levels of Registry Security
 󠀠   Multiple redundant data centers
 󠀠   High Availability Design
 󠀠   Architecture that includes multiple layers of security
 󠀠   Diversified firewall and networking hardware vendors
 󠀠   Multi-factor authentication for accessing registry systems
 󠀠   Physical security access controls
 󠀠   A 24x7 manned Network Operations Center that monitors all systems and
applications
 󠀠   A 24x7 manned Security Operations Center that monitors and mitigates DDoS
attacks
 󠀠   DDoS mitigation using traffic scrubbing technologies