



OPEN DATA CENTER ALLIANCESM

USAGE: REGULATORY FRAMEWORK

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OPEN DATA CENTER ALLIANCESM

USAGE: REGULATORY FRAMEWORK

EXECUTIVE SUMMARY

There are hundreds, if not more, of regulatory bodies, regulations and standards that organizations must track and obey. Organizations spend millions of dollars to ensure they are in compliance and face steep penalties consisting of fines and fees, as well as damage to overall business, if failures occur. Studies have shown, for example, that a \$1 billion company having just one Sarbanes-Oxley compliance failure could incur tens of millions of dollars in costs from settlement fees, lost business, fines, remediation, and business interruption.

The Open Data Center AllianceSM recognizes the need for specifying clear mandates and obligations that must be met by providers of cloud services, as well as mechanisms that enable service providers to demonstrate their ability to meet regulatory obligations in an auditable manner. The Regulation Usage Model is aimed at helping organizations assess and monitor their regulatory obligations when engaging and acquiring cloud services.

PURPOSE

Regulatory compliance requires proactive focus from both the customer and the provider of cloud services. To that end, this Usage Model describes at a high level the framework of the regulatory bodies, regulations, applicable laws and standards, and their implications for both the customers and providers of cloud services, irrespective of sectors. It also describes an illustrative process flow for engaging with regulators and managing associated governance and compliance through the cloud service lifecycle.

In addition to business-defined requirements and obligations for providers of cloud services, regulation and standards play a key role in influencing the definition and ongoing management of cloud services. The implications include, but are not limited to:

- The nature of the outsourcing contract and its terms and conditions
- The maintenance of effective business and technology controls with respect to service levels, privacy, information security, service availability, etc.
- The maintenance of appropriate records and access provisions
- The management of service in response to business interruptions and in providing effective disaster recovery
- The ownership of data and its geo-location, taking into account privacy, cross border, and availability-based regulations and mandates

Since cloud services generally cross jurisdictional boundaries, the services are usually influenced and governed by regulatory obligations at local, federal, international and industry levels. To help organizations meet these obligations, this Usage Model offers a high-level framework for navigating the regulatory compliance and governance steps from both a geographical and industry perspective. This should assist in identification of regulatory obligations, as well as potential barriers to adoption (such as sovereign risk, industry regulator compliance, government regulatory compliance, data ownership and confidentiality, etc.) and help manage the process for performing due diligence, cloud service engagement and ongoing risk management of regulatory compliance needs.

The current Usage Model provides a reference to a sample of industry, local, federal and international regulatory bodies, regulations, laws and standards spanning industry domains such as government, banking brokerage and financial services, health/pharmaceuticals and telecommunications.

NOTE: The initial survey of regulators, regulations, applicable laws and standards provided in this document is an illustrative list. It is not intended to be a comprehensive guide to all potential regulators, regulations and standards. **Cloud-Providers** and **Cloud-Subscribers** should take this into consideration when reviewing the usage model for heterogeneous and multi-data center deployments.

NOTE: It is intended in subsequent releases of this Usage Model that details of regulators, regulations and standards will be expanded and categorized by region and industry sector.

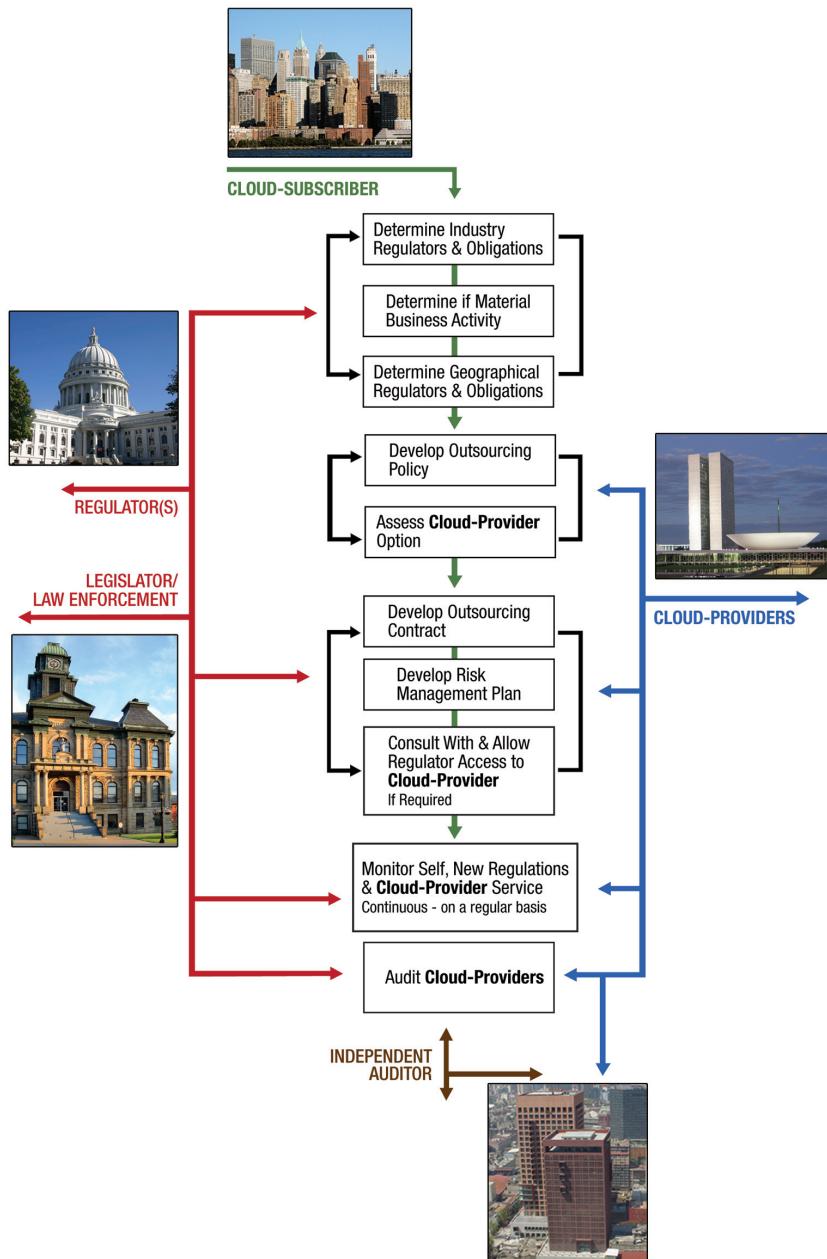
Service (VPDCaaS).

TAXONOMY

Actor	Description
Cloud-Subscriber	A person or organization that has been authenticated to a cloud and maintains a business relationship with a cloud.
Cloud-Provider	An organization providing network services and charging Cloud-Subscribers . A (public) Cloud-Provider provides services over the Internet.
Regulator	An agency (government or industry) responsible for exercising autonomous authority over a specific area or market.
Legislator/Law Enforcement	Entity that creates, enacts and/or enforces laws.
Auditor	External agencies and/or individuals which perform audits over a specific area or market.

FUNCTION MAP

The following flow chart shows the processes and relationships between the actors (**Cloud-Subscriber**, **Cloud-Provider**, Regulator, Auditor) when considering regulation and compliance.



ONGOING CORPORATE COMPLIANCE PROGRAM IN CLOUD ENVIRONMENTS

Cloud-Subscribers and **Cloud-Providers** should develop an ongoing corporate compliance and risk management program that ensures periodic review of regulatory requirements and changes, industry standards, internal processes, and **Cloud-Provider** operations, including audit and compliance.

It is expected that new legislation, regulatory approaches or enhancements to existing legislative mandates will be implemented to modernize existing data protection laws, update privacy requirements within several regions and govern key aspects of cloud-based services.

A corporate compliance program should therefore include processes for:

- Monitoring laws, regulations and standards
- Performing impact analysis of compliance obligations resulting from regulations, laws, standards, etc.
- Updating risk and compliance frameworks
- Implementing controls to manage compliance risk
- Monitoring, auditing and reporting on compliance posture
- Taking corrective action as required

NOTE: For **Cloud-Providers**, the key requirement is to be transparent and forthcoming in dealing with **Cloud-Subscribers**, Regulators and Auditors. **Cloud-Providers** have an obligation to notify **Cloud-Subscribers** of material changes to local laws and regulations.

Assessments of both materiality and risk necessitates a detailed understanding of the extent and nature of the business processes, the technology architecture, the impacted information assets, and the controls being implemented as part of any outsourcing arrangement.

As part of consultations with the relevant (industry and geographic) Regulator(s), **Cloud-Subscribers** are expected to undertake a comprehensive risk assessment and develop a plan to manage risk based on risk appetite, regulatory obligations, and commerciality. This would typically include an assessment of the specific arrangements underlying the services offered, the controlled environment of the **Cloud-Providers**, the location from which the services are to be provided, and the criticality and sensitivity of the information assets involved. The Regulator would expect regular review, assessment and management of risks as part of a management framework.

NOTE: Accountability for risks and risk management cannot be outsourced. **Cloud-Subscribers** should ensure they have a board-approved policy on outsourcing and a risk management framework in place to manage the risks of cloud environments, including regulatory and compliance risk.

USAGE MODEL

Actors: **Cloud-Subscriber**, **Cloud-Provider**, Regulator, External Auditor.

Goals:

1. To ensure that **Cloud-Subscribers** have the ability to efficiently assess their local, federal, international and industry regulatory obligations using a standardized, repeatable approach when engaging and acquiring services from **Cloud-Providers**.
2. To ensure that **Cloud-Subscribers** can mandate or specify key requirements and regulatory obligations to be met by **Cloud-Providers** for the industry verticals they wish to service.
3. To ensure that **Cloud-Providers** can efficiently demonstrate their ability to meet local, federal, international and industry regulatory obligations from both a geographical and industry perspective in an auditable manner.

Considerations:

1. Assumes primary industry, local, federal and international regulators, regulatory obligations, and standards can be readily identified (noting that there will be some necessary ongoing monitoring and maintenance of regulatory requirements).
2. Ultimately the onus is on the **Cloud-Subscriber** to ensure compliance with all geographical and industry-based regulation.

Success Scenario 1:

The **Cloud-Provider** shall efficiently demonstrate compliance to applicable geographical and industry-based regulations for their **Cloud-Subscribers'** needs. This compliance should be auditable and consistent upon application.

The **Cloud-Provider** is able to demonstrably deploy/adhere to changes and new regulatory requirements with minimum impact to existing **Cloud-Subscribers**.

The **Cloud-Subscriber** and/or **Cloud-Provider** is notified of any material changes to regulations, laws and compliance requirements applicable to their geography and industry in a formal and timely manner (this is so that the partnership of the **Cloud-Subscriber** and **Cloud-Provider** can agree what service changes, if any, are needed to become compliant with the material changes in regulation or law). NOTE: Industry efficiency will be improved if **Cloud-Providers** have a legal statement that **Cloud-Subscribers** can rely on in respect to compliance with specific local/national laws and regulations.

Failure Conditions 1:

The **Cloud-Provider** is unable to demonstrate or maintain the applicable regulatory or standards compliance requirements (such as privacy, security, business continuity, etc.) or meet **Cloud-Subscriber** policy requirements.

Failure Handling:

For all failure conditions, both the **Cloud-Provider** and the **Cloud-Subscriber** should assess their inability to meet applicable regulatory and standards compliance requirements and take remedial actions.

Requirements:

- **Cloud-Subscribers** should develop an ongoing corporate compliance and risk management program.
- **Cloud-Subscribers** should understand the implications of the geo-location of data, data ownership considerations, access restrictions and provisions, as well as regulatory obligations driving data protection, privacy, ownership, and data flows.
- **Cloud-Providers** should develop an understanding of the legal, regulatory and compliance needs of each sector of their **Cloud-Subscriber** target market, in order to be able to tailor services to meet the specific needs of that sector. To the extent that **Cloud-Providers** can assist **Cloud-Subscribers** to better meet their obligations, **Cloud-Providers** will be better positioned to attract and retain business and develop a strong reputation with the applicable Regulator(s).

Good practice regulatory requirements on **Cloud-Subscriber** institutions include obligations to:

- Have a policy relating to outsourcing of material business activities
- Have an adequate risk management plan to meet obligations and manage risk posed by the outsourcing arrangement
- Have sufficient monitoring processes in place to manage the outsourcing of material business activities
- Have a legally binding agreement in place for all outsourcing of material business activities, unless otherwise agreed by the relevant Regulator(s)
- Ensure compliance with all applicable laws and statutes governing the location and type of business being transacted (e.g., data privacy laws, banking secrecy laws, Gramm-Leach-Bliley Act)
- Consult with the relevant Regulator(s) prior to entering into agreements to outsource material business activities to **Cloud-Providers** who conduct their activities outside the **Cloud-Subscriber's** country
- Notify the relevant Regulator before entering into agreements to outsource material business activities

In the interest of giving guidance on how to create and deploy solutions that are open, multi-vendor and interoperable, we have identified specific areas where the Alliance believes there should be open specifications, formal or de facto standards, or common IP-free implementations. The specific areas in this Usage Model where we recommend that these specifications, standards and open implementations be developed are flagged with an asterisk (*) below. Where the Alliance has a specific recommendation on the specification, standard or open implementation, it is called out in this Usage Model. In other cases, we will be working with the industry to evaluate and recommend specifications in future releases of this document.

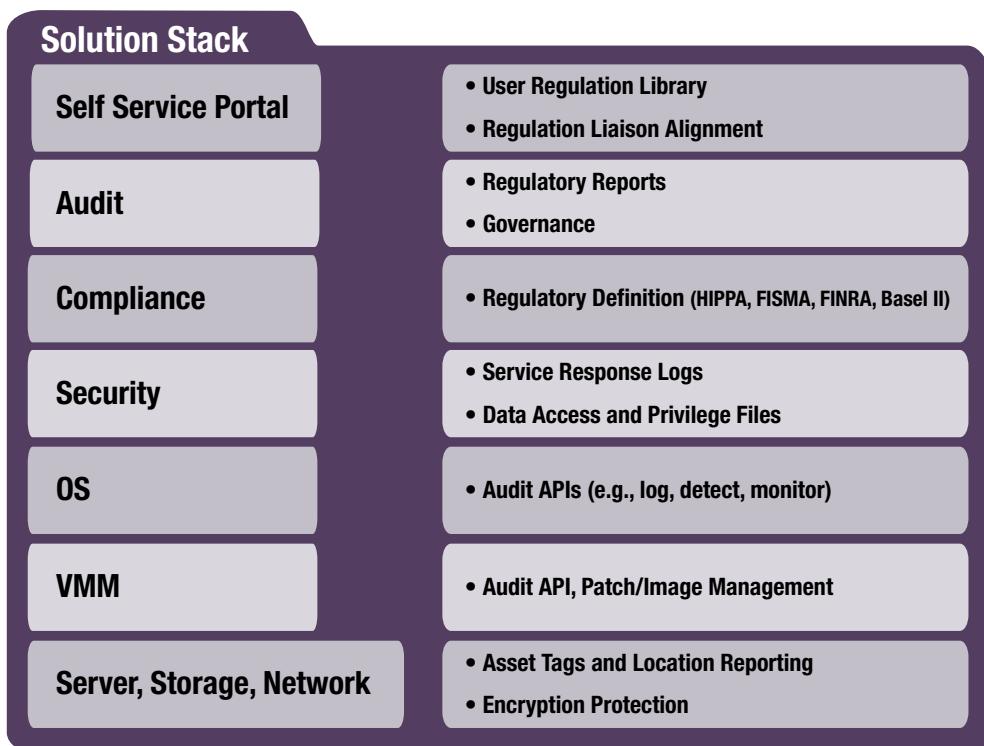
SUMMARY OF INDUSTRY ACTIONS REQUIRED:

In the interest of giving guidance on how to create and deploy solutions that are open, multi-vendor and interoperable, we have identified specific areas where the Alliance believes there should be open specifications, formal or de facto standards, or common IP-free implementations. The specific areas in this usage model where we recommend that these specifications, standards and open implementations be developed are flagged with an asterisk (*). Where the Alliance has a specific recommendation on the specification, standard or open implementation, it is called out in this usage model. In other cases, we will be working with the industry to evaluate and recommend specifications in future releases of this document.

The following are industry actions required to refine this usage model:

- **Cloud-Providers, Cloud-Subscribers**, Solution-Providers and industry bodies are encouraged to submit additional regulatory, regulations and standards references to the Open Data Center Alliance for edification and enhancement of the usage model.*
- **Cloud-Subscribers** should submit examples of successful cloud deployments that meet regulatory requirements and have had regulatory signoff in the **Cloud-Subscriber's** specific jurisdiction(s).
- Both **Cloud-Providers** and **Cloud-Subscribers** should develop robust governance models to meet regulatory and standards compliance, regardless of the service or deployment model.*
- Regulated organizations need to understand the effect of any differences in processes and systems at each of their locations, particularly if they are in different countries, including jurisdictional issues with respect to international transfer of personal data.

NOTE: As organizations adopt cloud computing to a greater extent, additional regulatory attention can be expected.



SURVEY OF REGULATORS, REGULATIONS AND STANDARDS

The following survey provides an initial list of key regulators, regulations, laws and standards applicable to industry domains such as government, banking, brokerage and financial services, health/pharmaceuticals, and telecommunications.

Banking, Brokerage and Financial Services			
Regulator or Governing Body	Abbreviation	Country	More Information
Prudential Control Authority	ACP	France	http://www.banque-france.fr/acp/index.htm
Netherlands Authority for the Financial Markets	AFM	Netherlands	http://www.afm.nl/en.aspx
Securities and Exchange Commission	AFM	Nigeria	http://www.sec.gov.ng
Autorite Des marches Financiers	AMF		http://www.amf-france.org/Default.asp?lang=en
Australia National Audit Office	ANOA	AU	http://www.anao.gov.au/
Australian Prudential Regulation Authority	APRA	AU	http://www.apra.gov.au/
Australian Securities & Investments Commission	ASIC	AU	http://www.asic.gov.au/
Australian Securities Exchange	ASX	AU	http://www.asx.com.au/
Australian Taxation office aka Australian Tax Authority	ATO	AU	http://www.ato.gov.au/
Australian Transaction Reports and Analyses Centre	AUSTRAC	AU	http://www.austrac.gov.au/
Bundesanstalt für Finanzdienstleistungsaufsicht	BaFin	Bafin	http://www.bafin.de/EN/Home/homepage__node.html?__nnn=true
Banco de Mexico	BANXICO	Mexico	http://www.banxico.org.mx/sitioingles/index.html
The Bankers Association of the Republic of China	BAROC	China	http://www.ba.org.tw/index-eng.aspx
Deustche Bundesbank (Central Bank of Germany)	BBK	Germany	http://www.bundesbank.de/index.en.php
Central Bank of Brazil aka BACEN	BCB	Brazil	http://www.bcb.gov.br/
Banque Centrale du Luxembourg	BCL	Luxembourg	http://www.bcl.lu/en/index.php
Banco Central de la República Argentina	BCRA	Argentina	http://www.bcra.gov.ar/index_i.htm

Banking Regulation and Supervision Agency	BDDK	Turkey	http://www.bddk.org.tr/WebSitesi/English.aspx
Banque du Liban	BDL	Liban	http://www.bdl.gov.lb/bfs/index.htm
Bank Indonesia	BI	Indonesia	http://www.bi.go.id/web/id/
Banca d'Italia (Bank of Italy)	BI	Italy	http://www.bancaditalia.it/;internal&action=_setlanguageaction?LANGUAGE=en
Brazilian Mercantile & Futures Exchange	BM&F	Brazil	http://www.bmf.com.br/IndexEnglish.asp
Bolsa Mexicana de Valores	BMV	Mexico	http://www.bmv.com.mx/
Bank Negara Malaysia	BNM	Malaysia	http://www.bnm.gov.my/
Bank of Japan	BOJ	Japan	http://www.boj.or.jp/en/
Bank of Korea	BOK	Korea	http://eng.bok.or.kr/eng/engMain.action
Bank of Spain	BOS	Spain	http://www.bde.es/
Bank of Thailand	BOT	Thailand	http://www.bot.or.th/english/
Bombay Stock Exchange Limited	BSE	India	http://www.bseindia.com/
Bangko Sentral Ng Pilipinas	BSP	Philippines	http://www.bsp.gov.ph/
BURSA Malaysia	BURSA	Malaysia	http://www.klse.com.my/website/bm/
Central Bank of Bahrain	CBB	Bahrain	http://www.bahrain.com/central-bank-bahrain.aspx
Central Bank of China (Taiwan)	CBC	China	http://www.cbc.gov.tw/mp2.html
Belgian Finance and Insurance Commission	CBFA	Belgium	http://www.cbfa.be/eng/index.asp
The Central Bank of the Russian Federation	CBR	Russia	http://www.cbr.ru/eng/v
China Banking Regulatory Commission	CBRC	China	http://www.cbrc.gov.cn/english/home/jsp/index.jsp
Central Depository Services (India) Limited	CDSL	India	http://www.cdslindia.com/
CETIP - OTC Clearing House	CETIP	Chile	http://www.cetip.com.br/index.asp?lang=english
China Financial Futures Exchange	CFEX		http://www.cfex.com.cn/en_new/sspz/hs300zs/
Capital Markets Authority	CMA	Kenya	http://www.cma.or.ke/
Comissao Do Mercado De Valores Mobiliarios	CMVM	Spain	http://www.cmvm.pt/en/Pages/default.aspx
Security and Exchange Commission	CNBV	Mexico	http://cnbv.gob.mx/
Comisiòn Nacional del Mercado de Valores Consejero	CNVM	Spain	http://www.cnmv.es/index_en.htm
Commission Nationale de la Protection des Donnees	CNPD	Luxembourg	http://www.cnpd.public.lu/fr/index.html

Commissione Nazionale per le Societa e la Borsa	CONSOB	Italy	http://www.consol.it/mainen/index.html?mode=gfx
Centre for Coordination and Control over Functioning of Securities Market	CSM	Russia	http://www.csm.gov.uz/
China Securities Regulatory Commission	CSRC	China	http://www.csrc.gov.cn/pub/csrc_en/
Commission de Surveillance du Secteur Financier	CSSF	Luxembourg	http://www.cssf.lu/index.php?&L=1
Dubai Financial Services Authority	DFSA	Dubai	http://www.dfsa.ae/Pages/default.aspx
Egyptian Financial Supervisory Authority	EFSA	Egypt	http://www.efsa.gov.eg/jtags/efsa2_en/index_en.jsp
Federal Deposit Insurance Corporation	FDIC	USA	http://www.fdic.gov/
FSC - Financial Examination Bureau	FEB	Taiwan	http://www.feb.gov.tw/Layout/main_en/index.aspx?frame=12
The Financial Futures Association of Japan	FFAJ	Japan	http://www.ffaj.or.jp/en/index.html
Federal Home Loan Bank System	FHLB	USA	http://www.fhlbanks.com/
Federal Home Loan Mortgage Corporation (Freddie Mac)	FHLMC	USA	http://www.freddiemac.com/
South African Financial Intelligence Centre	FIC	South Africa	https://www.fic.gov.za/
Swedish Financial Services Authority (FSA)	Finansinspektionen	Sweden	http://www.fi.se/Folder-EN/Startpage/
Financial Supervisory Authority (FIN-FSA)	FIN-FSA	Finland	http://www.finanssivalvonta.fi/en/Pages/Default.aspx
Security and Exchange Commission		Brazil	http://www.cvm.gov.br/ingl/indexing.asp
Danish Financial Supervisory Authority		Denmark	http://www.dfsa.dk/en.aspx
Financial Supervisory Authority of Norway		Norway	http://www.finanstilsynet.no/en/
Swiss Financial Market Supervisory Authority	FINMA	Sweden	http://www.finma.ch/e/pages/default.aspx
Financial Industry Regulatory Authority	FINRA	USA	http://www.finra.org/
Financial Market Authority	FMA	Germany	http://www.fma.gv.at/cms/site/EN/index.html
Federal National Mortgage Association (Fannie Mae)	FNMA	USA	http://www.fanniemae.com/kb/index?page=home
Federal Reserve Bank	FRB	USA	http://www.federalreserve.gov/bankinforeg/default.htm

Financial Services Authority	FSA	Japan	http://www.fsa.go.jp/en/index.html
Bank & Financial Services Authority of Ireland	FSA	Ireland	http://www.centralbank.ie/
Financial Supervision Authority (AFN)	FSA	Kazakhstan	http://www.afn.kz/en
Financial Services Authority	FSA	UK	http://www.fsa.gov.uk/
Federal Security Service of the Russian Federation	FSB	Russia	http://www.fsb.ru/
Financial Services Board	FSB	South Africa	http://www.fsb.co.za/
Financial Supervisory Commission	FSC	Taiwan	http://www.fscey.gov.tw/Layout/main_en/index.aspx?frame=16
Financial Supervisory Service	FSS	South Korea	http://english.fss.or.kr/fss/en/main.jsp
Guernsey Financial Services Commission	GFSC	Channel Islands	http://www.gfsc.gg/The-Commission/Pages/Home.aspx
GreTai Securities Market	GTS M	Taiwan	http://www.otc.org.tw/en/index.php
Hellenic Republic Capital Market Commission	HCMC	Helenic	http://www.hcmc.gr/pages/index.asp
Hong Kong Monetary Authority	HKMA	Hong Kong	http://www.info.gov.hk/hkma/
Indonesia Stock Exchange	IDX	Indonesia	http://www.idx.co.id/
Ireland Financial Regulator (aka IFSRA)	IFR	Ireland	http://www.financialregulator.ie/Pages/home.aspx
Investment Industry Regulatory Organization of Canada	IIROC	Canada	http://www.iiroc.ca/English/Pages/home.aspx
Indonesian Financial Transaction Reports and Analysis Center (PPATK)	INTRAC	Indonesia	http://www.ppatk.go.id/index_eng.php
Israel Securities Authority	ISA	Israel	http://www.isa.gov.il/
Jersey Financial Services Commission	JFSC	Channel Islands	http://www.jerseyfsc.org/index.asp
Japan Securities Dealers Association	JSDA	Japan	http://www.jsda.or.jp/html/eigo/index.html
Johannesburg Stock Exchange	JSE	South Africa	http://www.jse.co.za/Home.aspx
Korean Futures Exchange	KOFE	Korea	http://english.kofa.or.kr/
Korea Exchange	KRX	Korea	http://eng.krx.co.kr/
Ministry of Law & Justice	LAWMIN	UK	http://lawmin.nic.in/
London Metal Exchange	LME	UK	http://www.lme.com/
Monetary Authority of Singapore	MAS	Singapore	http://www.mas.gov.sg/
Ministry of Information & Broadcasting	MIB	India	http://www.mib.nic.in/

Ministry of Information and Communication Technology	MICT	Thailand	http://www.mict.go.th http://en.wikipedia.org/wiki/Ministry_of_Information_and_Communication_Technology_(Thailand)
Ministry of Finance	MOF	Taiwan	http://www.mof.gov.tw/engweb/mp.asp?mp=2
Montreal Exchange	MX	Canada	http://www.m-x.ca/accueil_en.php
National Securities Depository Limited	NSDL	India	https://nsdl.co.in/
National Stock Exchange of India	NSE	India	http://www.nse-india.com/
National Stock Exchange	NSE	USA	http://www.nsx.com/
National Tax Agency Japan	NTA	Japan	http://www.nta.go.jp/foreign_language/index.htm
New York Mercantile Exchange	NYMEX	USA	http://www.cmegroup.com/company/nymex.html
New York Stock Exchange	NYSE	USA	http://www.nyse.com/
Office of the Comptroller of the Currency	OCC	USA	http://occ.treas.gov/
Osaka Securities Exchange	OSE	Japan	http://www.ose.or.jp/e/
The Office of the Superintendent of Financial Institutions Canada	OSFI	Canada	http://www.osfi-bsif.gc.ca/osfi/index_e.aspx?ArticleID=3
People's Bank of China	PBOC	China	http://www.pbc.gov.cn/publish/english/963/index.html
Philippine Deposit Insurance Corporation	PDIC	Philippines	http://www.pdic.gov.ph/
Polish Financial Supervision Authority	PFSA	Poland	http://www.knf.gov.pl/en/index.html
Public Security Bureau	PSB	Philippines	http://en.wikipedia.org/wiki/Public_security_bureau
Philippine Stock Exchange	PSE	India	http://www.pse.com.ph/
Reserve Bank of India	RBI		http://www.rbi.org.in/home.aspx
Standardization Administration of PRC	SAC	China	http://www.sac.gov.cn/templet/english/
Saudi Arabian Monetary Agency	SAMA	Saudi Arabia	http://www.sama.gov.sa/sites/SAMAEN/Pages/Home.aspx
Superintendencia de Bancos e Instituciones Financieras	SBIF	Chile	http://www.sbif.cl/sbifweb/servlet/Portada?indice=0.0
Securities Commission	SC	Malaysia	http://www.sc.com.my/
Securities & Exchange Board of India	SEBI	India	http://www.sebi.gov.in/
Securities & Exchange Commission	SEC	USA	http://www.sec.gov/
Securities & Exchange Surveillance Commission	SESC	Japan	http://www.fsa.go.jp/sesc/english/index.htm
Securities Exchange Commission	SET	Thailand	http://www.sec.or.th/view/view.jsp?lang=en

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FSC - Securities and Futures Bureau	SFB	Taiwan	http://www.sfb.gov.tw/Layout/main_en/index.aspx?frame=15
Securities & Futures Commission	SFC	Hong Kong	http://www.sfc.hk/sfc/html/EN/
Singapore Exchange	SGX	Singapore	http://www.sgx.com/wps/portal/marketplace/mp-en/home
Secretaria de Hacienda y Credito Publico	SHCP	Mexico	http://www.shcp.gob.mx/Paginas/Default.aspx
Software Technology Parks of India	STPI	India	http://www.stpi.in/index.php?langid=1
Taiwan Futures Exchange	TAIFEX	Taiwan	http://www.taifex.com.tw/eng/eng_home.htm
Thai Bond Market Association	TBMA	Thailand	http://www.thaibma.or.th/
Tokyo Financial Exchange	TFX	Japan	http://www.tfx.co.jp/en/
Tokyo Metropolitan Government Inspection	TMGI	Japan	http://www.metro.tokyo.jp/ENGLISH/PROFILE/appendix03.htm
Taiwan Securities Association (aka CTSA or CSA)	TSA	Taiwan	http://www.csa.org.tw/CSAENG.asp
Tokyo Stock Exchange	TSE	Japan	http://www.tse.or.jp/english/
Taiwan Trust Association	TTA	Taiwan	http://www.tta.org.tw/index.html
Tokyo Tax Bureau	TTB	Japan	http://www.nta.go.jp/foreign_language/index.htm
Taiwan Stock Exchange	TWSE	Taiwan	http://www.twse.com.tw/en/

Telecommunications			
Regulator or Governing Body	Abbreviation	Country	More Information
Afghanistan Telecom Regulatory Authority	ATRA	Afghanistan	http://www.atra.gov.af/index.php?lang=en
Electronic and Postal Communications Authority ([1])		Albania	http://www.akep.al/
Autorite de Regulation des Postes et Telecommunications	ARPT	Algeria	http://www.arpt.dz/
Telecomunicações Ministério das Telecomunicações e Tecnologias	MTTI	Angola	http://www.mtti.gov.ao/
Secretaría de Comunicaciones	SECOM	Argentina	http://www.secom.gov.ar/
Australian Communications and Media Authority	ACMA	Australia	http://www.acma.gov.au/WEB/HOME PAGE/PC=HOME
Austrian Regulatory Authority for Broadcasting and Telecommunications	RTR-GmbH	Austria	http://www.rtr.at/
Utilities Regulation & Competition Authority	URCA	Bahamas	http://www.urcabahamas.bs/
Telecommunications Regulatory Authority of Bahrain	TRA	Bahrain	http://www.tra.org.bh/
Bangladesh Telecommunication Regulatory Commission	BTRC	India	http://www.btrc.gov.bd/
Telecommunications Unit		Barbados	http://www.telecoms.gov.bb/
Ministry of Posts and Telecommunications	MPT	Belarus	http://www.mpt.gov.by/new/modules/news/
Belgian Institute for Postal services and Telecommunication	BIPT	Belgium	http://www.bipt.be/nl/1/Home/Home/Welkom.aspx
Transitory Authority for the Regulation of Posts and Telecommunication	ATRPT	Benin	http://www.atrpt.bj/

Superintendencia de Telecomunicaciones	SITTEL	Bolivia	http://www.sittel.gov.bo/ (Webpage temporarily unavailable.)
Botswana Telecommunications Authority	BTA	Botswana	http://www.bta.org.bw/
Agencia Nacional de Telecomunicacoes	ANATEL	Brazil	http://www.anatel.gov.br/
Authority for Info-Communications Technology Industry	AITI	Brunei Darussalam	http://www.aiti.gov.bn/
Communications Regulatory Agency of Bosnia-Herzegovina	CRA	Bosnia & Herzegovina	http://www.cra.ba/
Communications Regulation Commission	CRC	Bulgaria	http://www.crc.bg/index.php?lang=en
Autorite Nationale de Regulation des Telecommunications	ARCE	Burkina Faso	http://www.artel.bf/
Agence de Régulation et de Contrôle des Télécommunications	ARCT	Burundi	http://burundibwiza.com/
Agence de Regulation des Telecommunication	ART	Cameroon	http://www.art.cm/
Industry Canada	ICRST	Canada	http://www.ic.gc.ca/ic_wp-pa.htm
Canadian Radio-television & Telecommunications Commission	CRTC	Canada	http://www.crtc.gc.ca/eng/home-accueil.htm
National Communications Agency	ANAC	Cape Verde	http://www.anac.cv/
Agence chargée de la Régulation des Télécommunications	ART	Central African Republic	http://www.art-rca.org/
Office Tchadien de Regulation des Telecoms	OTRT	Chad	http://www.otrt.td/
Comisión de Regulación de Comunicaciones	CRCO	Columbia	http://www.crcom.gov.co/
Autorité Nationale de Régulation des Tics	ANRTC	Comoros	http://www.alwatwan.net/index.php?home=actu.php&actu_id=983
Agence des Telecommunications de Cote d'Ivoire	ATCI	Cote d'Ivoire	http://www.atci.ci/
Croatian Post and Electronic Communications Agency	HAKOM	Croatia	http://www.hakom.hr/default.aspx?id=7
Subsecretaria de Telecommunicacaiones	SUBTEL	Chile	http://www.subtel.cl/prontus_subtel/site/edic/base/port/inicio.html
The Czech Telecommunication Office	TÚ	Czech Republic	http://www.ctu.eu/main.php?pageid=178
Autorite de Regulation de la Poste et des Telecommunications du Congo	ARPTC	Democratic Republic of the Congo	http://www.arptc.cd/
National IT & Telecom Agency	ITST	Denmark	http://en.itst.dk/
Ministere de la Communication et de la Culture, chargé des Postes et Télécommunications, Porte-Parole du Gouvernement	MCCPT	Djibouti	http://www.mccpt.dj/

Eastern Caribbean Telecommunications Authority	ECTEL	Dominica	http://www.ectel.int/ntrcdominica.htm
Consejo Nacional de Telecomunicaciones del Ecuador	CONATEL	Ecuador	http://www.conatel.gov.ec/
Ministerio de Telecomunicaciones y de la Sociedad de la Información	MINTEL	Ecuador	http://www.mintel.gob.ec/
Superintendencia General de Electricidad y Telecomunicaciones	SIGET	El Salvador	http://www.siget.gob.sv/
National Telecommunications Regulatory Authority	NTRA	Egypt	http://www.tra.gov.eg/english/Main.asp
Ethiopian Telecommunications Agency	ETA	Ethiopia	http://www.eta.gov.et/
Ministry of Transport and Communications	LVM	Finland	http://www.lvm.fi/web/en/home
Autorité de Regulation des Communications Electroniques et des Postes	ARCEP	France	http://www.arcep.fr/
Agence de Regulation des Télécommunications	ARTEL	Gabon	http://www.artel.ga/
Gambian Public Utilities Regulatory Authority	PURA	Gambia	http://www.pura.gm/
Georgian National Communications Commission	GNCC	Georgia	http://www.gncc.ge/?lang_id=ENG
Bundesnetzagentur	BNA	Germany	http://www.bundesnetzagentur.de/cln_1911/DE/Home/home_node.html
National Communications Authority	NCA	Ghana	http://www.nca.org.gh/
Hellenic Telecommunications & Post Commission	EETT	Greece	http://www.eett.gr/
Eastern Caribbean Telecommunications Authority	ECTEL	Grenada	http://www.ectel.int/
Superintendencia de Telecomunicaciones	SIT	Guatemala	http://www.sit.gob.gt/
Regulatory Authority for Posts & Telecommunications	ARPT	Guinea	http://www.arptguinee.org/
Ministry of Telecommunications	ICGB	Guinea Bissau	http://www.icgb.org/ (Website currently not available.)
Comisión Nacional de Telecomunicaciones	CONATEL	Honduras	http://www.conatel.gob.hn/
Office of the Telecommunications Authority	OFTA	Hong Kong	http://www.ofta.gov.hk/
National Media & Infocommunication Authority	NMHH	Hungary	http://www.nmhh.hu/
Ministry of Transport, Communications & Local Gov.		Iceland	http://eng.samgonguraduneyti.is/
Telecom Regulatory Authority of India	TRAI	India	http://www.trai.gov.in/
Communication Regulatory Authority	CRA	Iran	http://www.cra.ir/Portal/Home/
Commission for Communications Regulation	ODTR	Ireland	http://www.comreg.ie/
Badan Regulasi Telekomunikasi Indonesia / Indonesian Telecommunications Regulatory Authority	BRTI	Indonesia	http://www.brti.or.id/ (Website currently not available.)

Commission for Communications Regulation	ComReg	Ireland	http://www.comreg.ie/
Ministry of Communications	MOC	Israel	http://www.moc.gov.il/
Autorità per le Garanzie nelle Comunicazioni	AGCOM	Italy	http://www.agcom.it/
Ministry of Internal Affairs & Communications	MIC	Japan	http://www.soumu.go.jp/english/index.html
Telecommunications Regulatory Commission	TRC	Jordan	http://www.trc.gov.jo/
Communications Commission of Kenya	CCK	Kenya	http://www.cck.go.ke/
Ministry of Communications and Information	KCC	South Korea	http://www.kcc.go.kr/user/ehpMain.do
Elektronisko sakaru direkcija	ESD	Latvia	http://www.esd.lv/index.php?lang=en
Telecommunications Regulatory Authority	TRA	Lebanon	http://www.tra.org.bh/
Lesotho Communications Authority	LCA	Lesotho	http://www.lca.org.ls/
Liberia Telecommunications Authority	LTA	Liberia	http://www.lta.gov.lr/
General Telecommunications Authority	GTA	Libya	http://www.gta.ly/
Institut luxembourgeois de régulation	ILR	Luxembourg	http://www.ilr.public.lu/
Bureau of Telecommunications Regulation	DSRT	Macau	http://www.gdtti.gov.mo/eng/News/index.html
Office Malagasy d'études et de Regulation des Telecommunications	OMERT	Madagascar	http://www.omert.mg/
Communications Regulatory Authority	MACRA	Malawi	http://www.macra.org.mw/
Malaysian Communications & Multimedia Commission	MCMC	Malaysia	http://www.skmm.gov.my/
Ministere de la Communication et des TIC	MTCMTL	Mali	
Malta Communications Authority	MCA	Malta	http://www.mca.org.mt/
Autorite de Regulation	ARE	Mauritania	http://www.are.mr/
Information and Communication Technologies Authority	ICTA	Mauritius	http://www.icta.mu/home/
Federal Telecommunications Commission	COFETEL	Mexico	http://www.cft.gob.mx/wb/Cofetel_2008/idioma
National Regulatory Agency for Electronic Communications and Information Technolog	ANRCETI	Moldova	http://en.anrceti.md/front
L'Agence Nationale de Réglementation des Télécommunications	ANRT	Morocco	http://www.anrt.net.ma/
Instituto Nacional das Communicacoest de Mozambique	INCM	Mozambique	http://www.incm.gov.mz/
Namibian Communications Commission	NCC	Namibia	http://www.ncc.org.na/
Nepal Telecommunications Authority	NTA	Nepal	http://www.nta.gov.np/en/
Onafhankelijke Post en Telecommunicatie Autoriteit	OPTA	Netherlands	http://www.opta.nl/nl/
Commerce Commission of New Zealand	ComCom	New Zealand	http://www.comcom.govt.nz/
L'Autorite de Regulation Multisectorielle	ARM	Niger	http://www.arm-niger.org/

Nigerian Communications Commission	NCC	Nigeria	http://www.ncc.gov.ng/
Norwegian Post & Telecom Authority	NPT	Norway	http://www.npt.no/
Pakistan Telecommunication Authority	PTA	Pakistan	http://pta.gov.pk/
Papua New Guinea Radiocommunication &Telecommunication Technical Authority	PANGTEL	Papau New Guinea	http://www.pangtel.gov.pg/
Organismo Supervisor de Inversión Privada en Telecomunicaciones	OSIPTEL	Peru	http://www.osiptel.gob.pe/WebSiteAjax/
National Telecommunications Commission	NTC	Philippines	Website currently not available. Parent organization website: http://www.cict.gov.ph/
Prezes Urz du Komunikacji Elektronicznej	UKE	Poland	http://www.uke.gov.pl/uke/index.jsp?
Autoridade Nacional de Comunicações	ANACOM	Portugal	http://www.anacom.pt/
National Authority for Management & Regulation in Communications of Romania	ANCOM	Romania	http://www.anrcti.ro/index.aspx
Ministry for Communications & Informatization of the Russian Federation	Minsvyaz	Russia	http://www.minsvyaz.ru/
Regulatory Agency for Public Utility Services of Rwanda	RURA	Rwanda	http://www.rura.gov.rw/
Communications & Information Technology Commission	CITC	SA	http://www.citc.gov.sa/english/Pages/default.aspx
ART/Sénégal	ARTP	Senegal	http://www.artp-senegal.org/
Republic Agency for Electronic Communication	RATL	Serbia	http://www.ratel.rs/home.136.html
Ministry of Information Technology and Communication	MISD	Seychelles	http://www.misd.gov.sc/
National Telecommunications Commission	NATCOM	Sierra Leone	http://www.natcomsl.com/natcom/natcom6.htm
Infocomm Development Authority of Singapore	IDA	Singapore	http://www.ida.gov.sg/home/index.aspx
Ministry of Posts & Communication	MPC	Somalia	http://www.mopc.somaligov.net/
Independent Communications Authority of South Africa	CASA	S. Africa	http://www.icasa.org.za/
Telecommunications Regulatory Commission of Sri Lanka	TRC	Sri Lanka	http://www.trc.gov.lk/
National Telecommunications Corporation	NTC	Sudan	http://www.ntc.gov.sd/
Swaziland Posts and Telecommunications Corporation	SPTC	Swaziland	http://www.sptc.co.sz/
National Communications Commission	NCC	Taiwan	http://www.ncc.gov.tw/english/
Tanzania Communications Regulatory Authority	TCRA	Tanzania	http://www.tcra.go.tz/
National Telecommunications Commission	NTC	Thailand	http://www.ntc.gov.ph/
Autorite de Reglementation des Secteurs de Postes et Telecommunications	ART&P	Togo	http://www.artp.tg/

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de l'Instance Nationale des Télécommunications de Tunisie	INTT	Tunisia	http://www.intt.tn/
Information & Communication Technologies Authority	ICTA	Turkey	http://www.btk.gov.tr/
Uganda Communications Commission	UCC	Uganda	http://www.ucc.co.ug/
National Communications Regulating Commission	NCRC	Ukraine	http://www.nkrz.gov.ua/uk/
Telecommunications Regulatory Authority	TRA	UAE	http://www.tra.ae/
Ofcom	OFCOM	UK	http://www.ofcom.org.uk/
Federal Communications Commission	FCC	USA	http://www.fcc.gov/
Unidad Reguladora de Servicios de Telecomunicaciones	URSEC	Uruguay	http://www.ursec.gub.uy/ (website currently unavailable)
Telecommunications Regulator	Telecom Regulator	Vanuatu	http://www.telecomregulator.gov.vu/
Comisión Nacional de Telecomunicaciones	CONATEL	Venezuela	http://www.conatel.gob.ve/
Communications Authority	CAZ	Zambia	http://www.caz.zm/
Postal & Telecommunications Regulatory Authority	POTRAZ	Zimbabwe	http://www.potraz.gov.zw/

Other Regulators			
Regulator or Governing Body	Abbreviation	Country	More Information
Department for Business Innovation and Skills	BIS	UK	http://www.bis.gov.uk/about
Department for Environment Food and Rural Affairs	DEFRA	UK	http://www.defra.gov.uk/
European code of conduct for ICT		EU	http://re.jrc.ec.europa.eu/energyefficiency/html/standby_initiative_main.htm
Department of Energy	DOE	USA	http://www.energy.gov/
Environment Protection Agency	EPA	USA	http://www.epa.gov/
Federal Energy Regulatory Commission	FERC	USA	http://www.ferc.gov/
Federal Communications Commission	FCC	USA	http://www.fcc.gov/
Federal Deposit Insurance Corporation	FDIC	USA	http://www.fdic.gov/
Federal Financial Institutions Examination Council	FFIEC	USA	http://www.ffcic.gov/
Nuclear Regulatory Commission	NRC	USA	http://www.nrc.gov/
North American Electric Reliability Corporation	NERC	USA	http://www.nerc.com/
Data breach notification laws (for US states)		USA	http://www.ncsl.org/Default.aspx?TabId=13489
Belgian Institute for Postal services and Telecommunication	BIPT	Belgium	http://www.bipt.be/nl/1/Home/Home/Welkom.aspx
Transitory Authority for the Regulation of Posts and Telecommunication	ATRPT	Benin	http://www.atrpt.bj/

Regulations, Acts, and Law			
Regulator or Governing Body		Country	More Information
Health Insurance Portability and Accountability Act	HIPAA	USA	http://en.wikipedia.org/wiki/Health_Insurance_Portability_and_Accountability_Act
Data Protection Act	DPA	UK	http://www.legislation.gov.uk/ukpga/1998/29/contents
Sarbanes-Oxley Act	SOX	USA	http://en.wikipedia.org/wiki/Sarbanes%E2%80%93Oxley_Act
Gramm-Leach-Bliley Act	GLBA	USA	http://business.ftc.gov/legal-resources/46/33
Federal Information Security Management Act	FISMA	USA	http://csrc.nist.gov/groups/SMA/fisma/index.html
DoD Information Assurance Certification and Accreditation Process	DIACAP	USA	http://www.usa.gov/Agencies/Federal/Executive/Defense.shtml
Privacy Act of 1974		USA	http://en.wikipedia.org/wiki/Privacy_Act_of_1974
Electronic Communications Privacy Act	FDIC	USA	http://en.wikipedia.org/wiki/Electronic_Communications_Privacy_Act
Privacy Act 1988		USA	http://en.wikipedia.org/wiki/Privacy_Act_1988
Data Protection Directive		EU	http://en.wikipedia.org/wiki/Data_Protection_Directive

Defacto and Related Industry Standards			
Regulator or Governing Body	Abbreviation	Country	More Information
ISO/IEC 27001:2005	ISO		http://www.iso.org/iso/catalogue_detail?csnumber=42103
SAS 70	SAS 70		http://sas70.com/
The Green Grid		USA	http://www.thegreengrid.org/
COBIT (IT Governance and Control)			http://www.isaca.org/Knowledge-Center/COBIT/Pages/Overview.aspx
PCI Data Security Standards	PCI DSS		https://www.pcisecuritystandards.org/security_standards/index.php
Telecommunications Industry Association	TIA 942		http://www.tiaonline.org/standards/catalog/search.cfm?standards_criteria=942
National Institute of Standards and Technology	NIST	USA	http://www.nist.gov/index.html
Cloud Security Alliance	CSA	USA	https://cloudsecurityalliance.org/