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Netpas Enterprise API

Version 5.00

Development Guide (SOAP)

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1. Abstract

Netpas Enterprise API(NEA) is a service based on Web Services which is transferring way of SOAP message.

If a client transfers a SOAP Request message to our Distance server, the Distance server returns SOAP Response to the client.

Web Services Client Stub makes a communication possible between server and clients. User can create Web Services Client Stub in MS .NET, Apache Axis and Delphi and Other development language easily.

You can find details of Web Services and SOAP in the sites here below.

<http://www.w3.org/2002/ws/>

<http://www.w3.org/TR/soap/>

<http://www.w3.org/TR/wsdl>

<http://msdn.microsoft.com/webservices/>

<http://ws.apache.org/axis/>

2. How to work

WSDL(Web Services Definition Language) Document contains how to use Web Services. In this document, you can find out how to send Request and Response and how to create Client Stub.

You can find WSDL document of Netpas Netpas Enterprise API from the link here below.

<http://dist.netpas.net/NPSystem/services/NPDistanceVersion5?wsdl>

3. License

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4. WSDL Overview

Netpas Enterprise API is a "RPC / Encoded" type Web Services. Therefore, you can use this service such like "Function Call" in client side. This service has a method to get distance data from Netpas server.

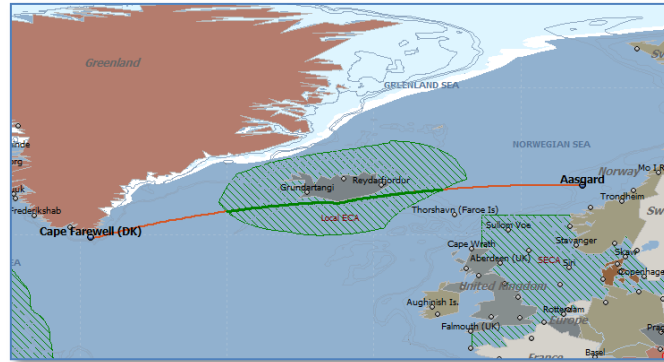
Method	getDistance		
DESC	The API returns optimal route and distance after receiving Point (Port or Coordinates). The request format is as follows.		
Parameters			
	Name	Type	Description
	pinCode	String	SERVICE PIN-CODE
	accessCode	String	SERVICE ACCESS-CODE
	portNames	Array of String	Port, Routing Point, Lat/Lon. Ex) Pusan Suez(RP) 37.38W 46.40N
	piracyCode	String	Code For Piracy Area * Ref. <i>Appendix B</i>
Retrun Type	GetDistReturn		

<<table4-1: method parameters >>

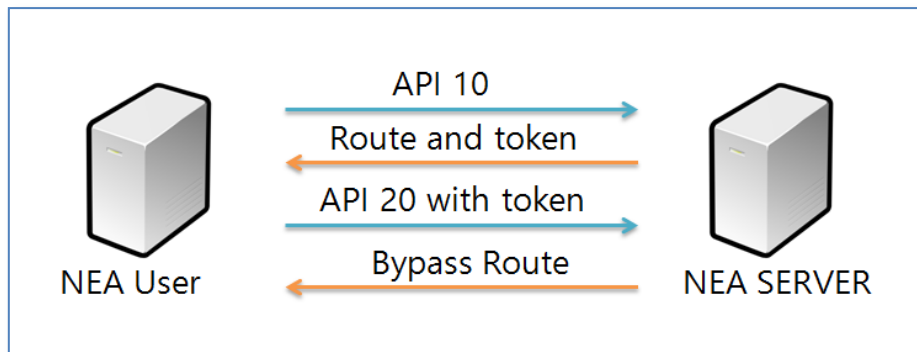
Method	getDistanceBypassSECA		
DESC	The API is an API to obtain the (S)ECA bypass route. This API cannot request route or distance by itself and can request it again via token only when crossing the (S)ECA region after requesting API 10. NEA user needs to request again through the token, so NEA user can get a bypass path with the same port and option as the previous request. * The token can only be used once.		
Parameters			
	Name	Type	Description
	token	String	Token for (S)ECA bypass
Retrun Type	GetDistReturn		

<<table4-1: method parameters >>

The following cases are crossing the (S)ECA, where the Token for (S)ECA bypass is returned.



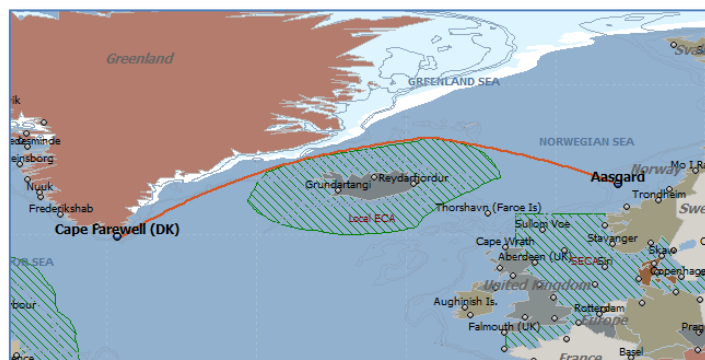
<< picture4-1: the route across the (S)ECA >>



<< picture4-2: NEA communication flowchart >>

As shown in the figure above, when pin_code, access_code, piracy_option, and port array are sent to API10, token is returned with route. If the route does not cross the (S)ECA region (cross_seca = false), you can not request the API for the port list because it does not return a token.

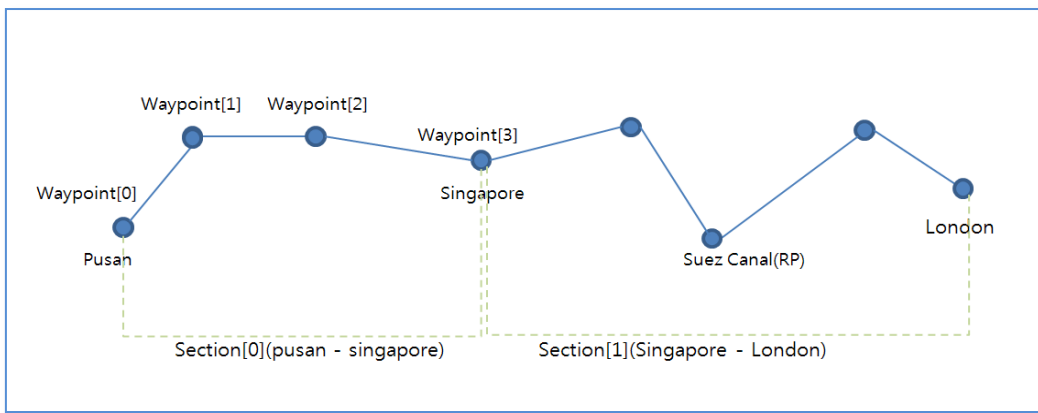
The route bypassed to API is as follows.



<< picture4-3: the route bypassing the (S)ECA >>

5. Return Value(*GetDistReturn Element*) Overview

As calculating the distance on Netpas Enterprise API, it allows to ask multiple port calls at one time (maximum 10port, the number of used port call is considered one time). For the convenience, it isn't offered only Total Distance, total SECA distance but the distance, SECA distance as per each section either which of one section has List of Waypoints representing "Route". In case that the waypoint is port or Routing point has its own name otherwise does not.



<<picture5-1 : model of Return Element>>

The model below <<picture 5-1>> is representing the returned Elements as distance call of Pusan-Singapore-London is asked to Enterprise API. Regarding three ports, 2 sections are returned and each section is composed of several Waypoints. The waypoints named Suez Canal(RP) is seen among the waypoints of the second section and it is "Routing Point"

Description of returned Elements

Element Name		GetDistReturn	
Sub Elements			
	Name	Type	Description
	todayUsed	int	The number of " <i>getDistance</i> " used today
	dayLimit	int	The number of " <i>getDistance</i> " available per day
	totalDistance	double	Total distance
	totalDistanceSECA	double	The distance passing SECA of whole Distance.
	cross_seca	boolean	If "true", cross the (S)ECA.
	token	String	Token for (S)ECA bypass

	Sections	Array of Section	Section Element Array In case N port Names, (N-1) sections returned
	retCode	Int	* Ref. <i>Appendix B</i>
	retMessage	String	Return message

<<table5-1: return Elements >>

Element Name	Section		
Sub Elements			
	Name	Type	Description
	fromPort	String	Departure port
	toPort	String	Arrival port
	distance	double	distance of the Section
	distanceSECA	double	SECA distance of the Section
	waypoints	Array of WayPoint	Section Element Array In case N ports, (N-1) sections returned

<<table5-2: return Elements >>

Element Name	Waypoint		
Sub Elements			
	Name	Type	Description
	lat	double	Latitude of waypoint
	lon	double	Longitude of waypoint
	name	double	Total distance
	seca	boolean	Check out whether it is SECA from way- point to the next waypoint or not. Ref. appendix A

<<table5-3: return Elements >>

6. Using Demo

You can test **Netpas Enterprise API** with Demo License.

<p>DEMO PIN CODE : DEMO</p> <p>DEMO ACCESS CODE : DEMO</p>
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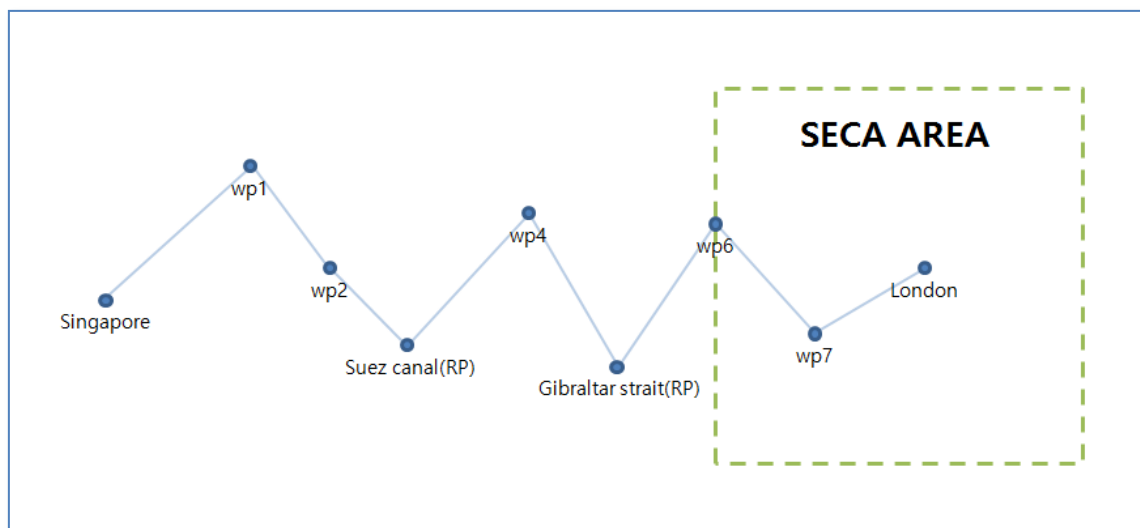
For demo users, we provide only 200 ports (ref. *Appendix D*) and coordinates to port (coordinates) function can be used within limited area (ref. *Appendix C*)

Appendix A – SECA

Here are waypoints between Singapore – London. (These numbers are not correct and just for a model)

Waypoints	lat	lon	name	Seca
Singarpore	1.2	103.4	Singarpore	False
Wp1	5.3	80.2		False
Wp2	11.2	45.2		False
SUEZ CANAL (RP)	29.9	32.5	SUEZ CANAL (RP)	False
Wp4	30.2	15.1		False
GIBRALTAR STRAIT (RP)	35.9	-5	GIBRALTAR STRAIT (RP)	False
Wp6	40	-3		True
Wp7	45	-2		True
London	51.5	-0.1	London	N/A

<<tableA-1>>



<<pictureA-1>>

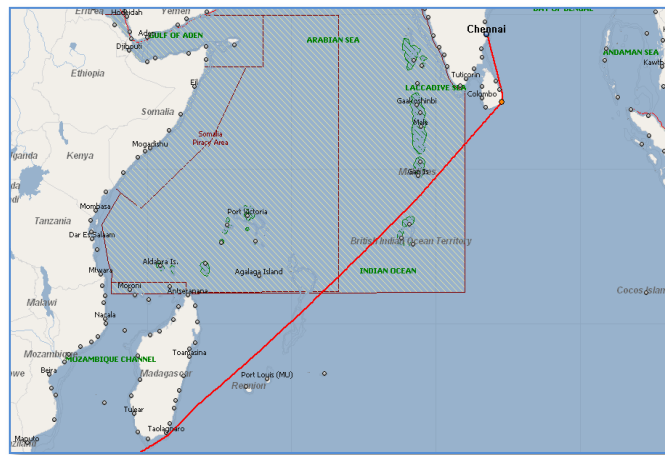
You will know the route wp6-wp7-London crosses SECA because "seca" values of wp6 and wp7 are true. The false in London does mean nothing because it is for a route between London – next way point. There is no next waypoint any more.

Appendix B – CODE TABLE

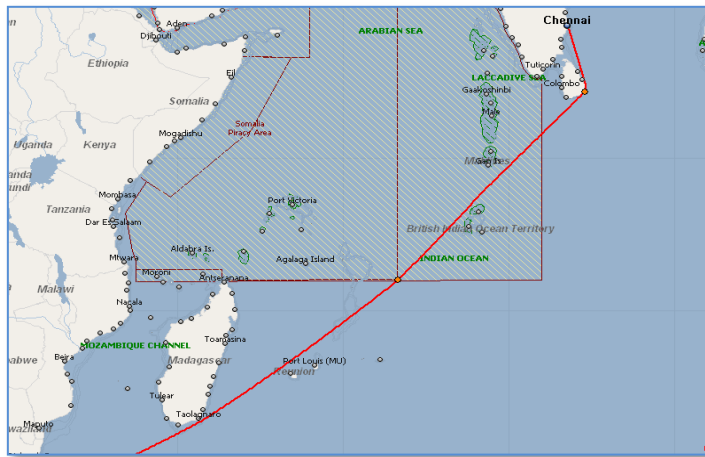
Piracy Code Table

piracyCode	Description
000	The latest update of piracy area. Identified with code 008 as of Dec, 2015
001	The shortest path
002	250nm outer route from Somalia east coast
003	600NM outer route from Somalia east coast
004	JWLA015(2 nd Aug 2010)
005	JWLA016(16 th Dec 2010)
006	JWLA016 Up to Mumbai
007	JWLA016 Max Avoid Route
008	JWLA022(10 th Dec 2015)

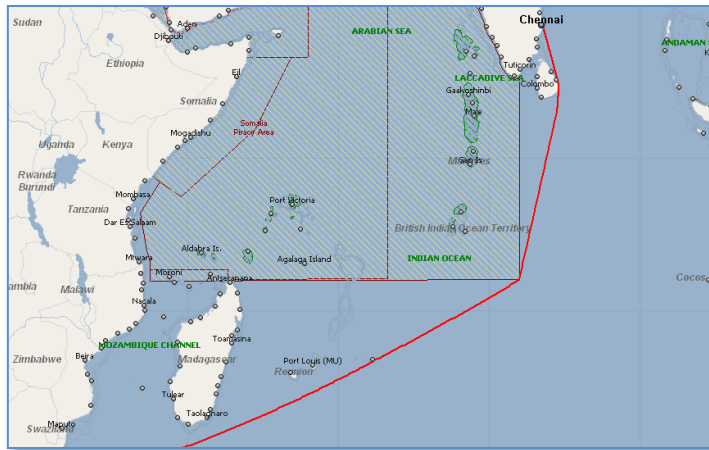
<<tableB-1: parameter code of piracy path >>



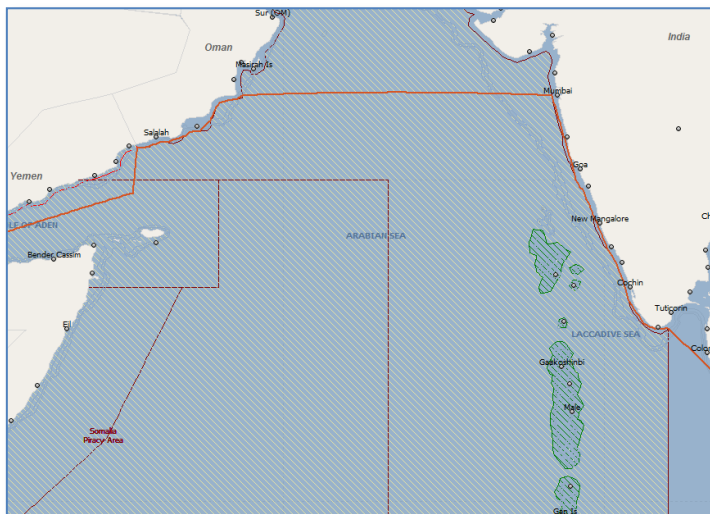
<<pictureB-1: example - the shortest path >>



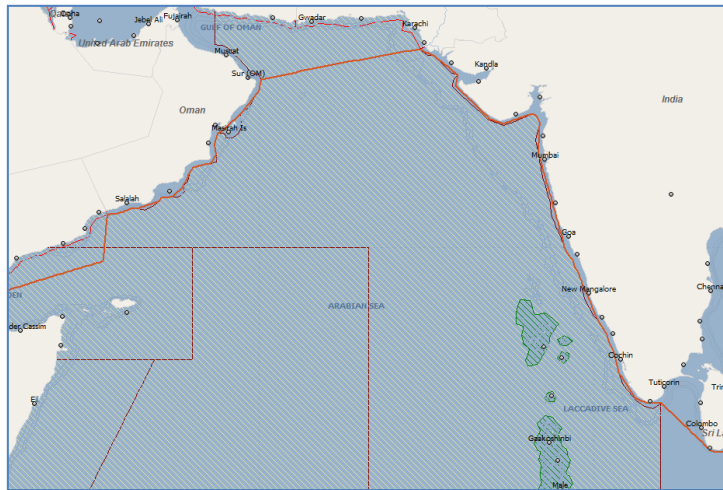
<<pictureB-2: example - JWLA015(2nd Aug 2010) >>



<<pictureB-3: example - JWLA016(16th Dec 2010)>>



<<pictureB-4: example - JWLA016 Up to Mumbai >>



<<pictureB-5: example - JWLA016 Max Avoid Route>>

Return Code Table

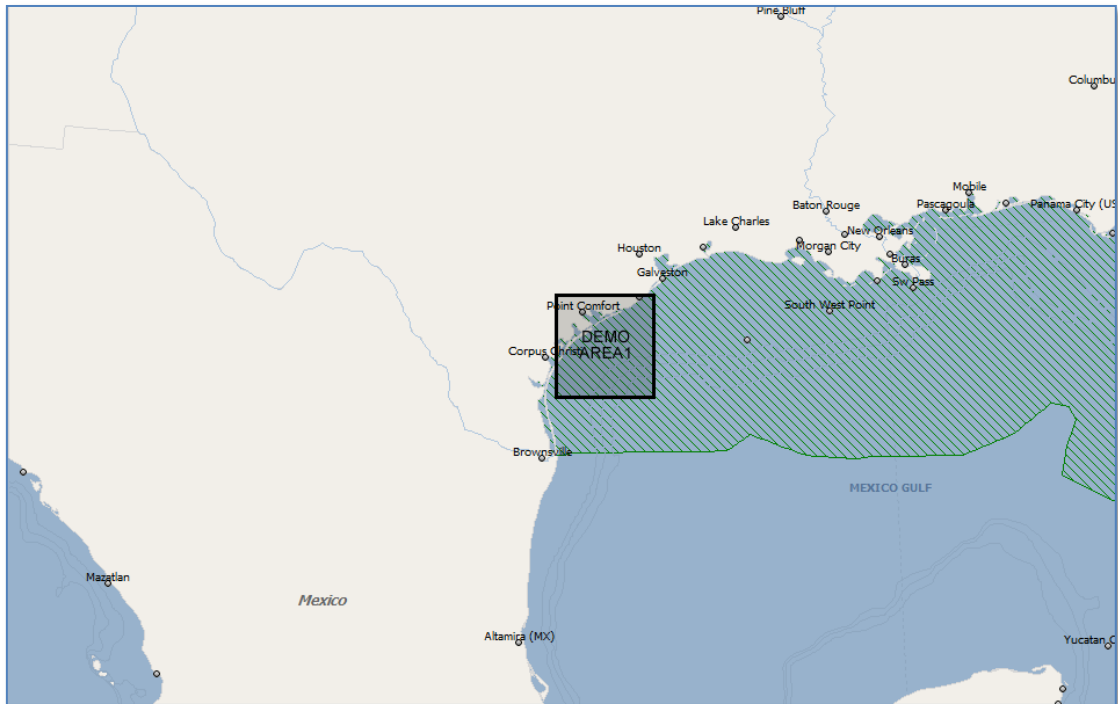
CODE	DESCRIPTION
100	Success
200	System Error
210	Invalid Request
220	No such PINCODE
221	Invalid ACCESSCODE
222	Invalid PINCODE
225	Your ID has been stopped. Please contact Netpas support team. (support@netpas.net).
231	Your calculation number is over the day limit and blocked.
237	Invalid piracy code
250	No Route

<<tableB-2: return code>>

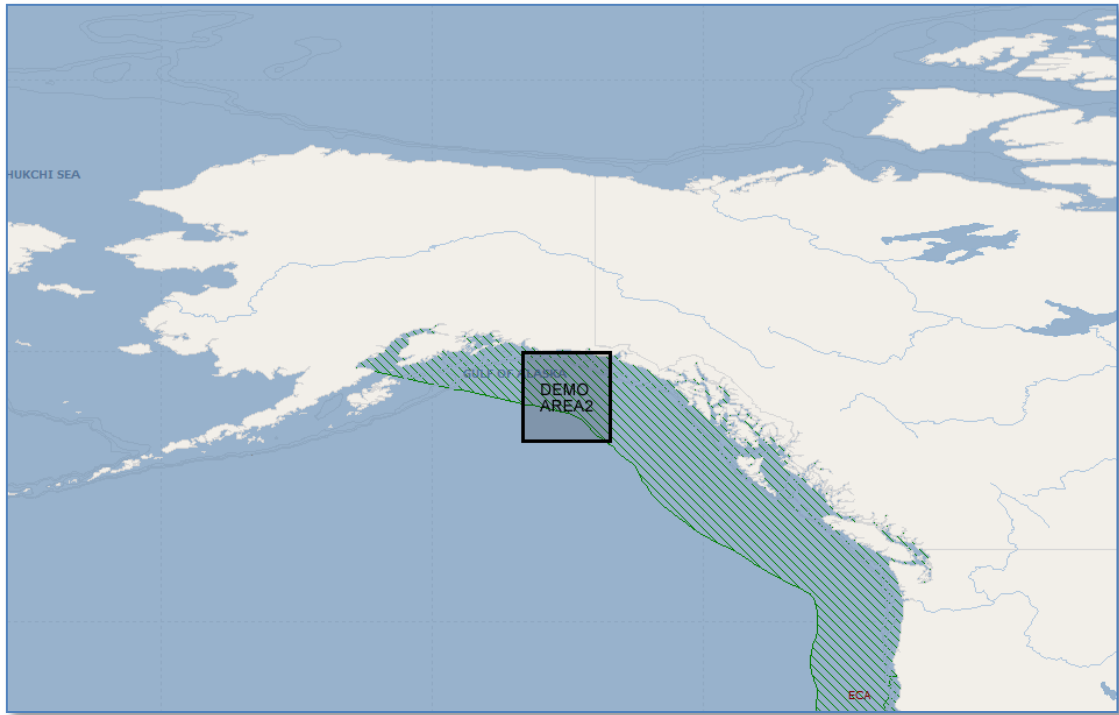
Appendix C – DEMO COORDINATES

Demo users can use "Coordinates to Port" and "Coordinates to Coordinates" function within limited area as below pictures.

Area1 : 27N to 29N , 95W to 97W



Area2 : 55N to 60N , 140W to 145W



Appendix D – DEMO PORT

You can find our demo ports list table here below.

EVALUATION PORTS

PTYPE : P - PORT , A - ALIAS, R - ROUTING POINT

PORT NAME	UN-LOCODE	NP-POCODE	COUNTRY	PTYPE
Aabenraa	DKAAB	DKAABA	Denmark	A
Aahus	SEAHU	SEAHUS	Sweden	A
Aasgard		NOAASD	Norway	P
Aggersund	DKASH	DKASHD	Denmark	P
Agnefest	NOAFT	NOAFTT	Norway	P
Aioi	JPAIO	JPAIOI	Japan	P
Ajos	FIAJO	FIAJOS	Finland	P
Akinum	PGAKI	PGAKIM	Papua New Guinea	P
Akitsu	JPAKT	JPAKTU	Japan	P
Al Hoceima	MAAHU	MAAHUA	Morocco	P
Alborg	DKAAL	DKAALG	Denmark	P

Alemoa Terminal		BRALTL	Brazil	P
Algiers	DZALG	DZALGS	Algeria	P
Amio	PGAMI	PGAMIO	Papua New Guinea	P
Ancona	ITAOI	ITAOIA	Italy	P
Antalaha	MGANM	MGANMA	Madagascar	P
Antofagasta	CLANF	CLANFA	Chile	P
Arco Ardjuna		IDARAA	Indonesia	P
Arica	CLARI	CLARIA	Chile	P
Arun Terminal	IDAUN	IDAUNL	Indonesia	P
Ashdod	ILASH	ILASHD	Israel	P
Atyrau		KZATRU	Kazakhstan	P
Babouillat		NCBAPT	New Caledonia	P
Bade	IDBXD	IDBADE	Indonesia	P
Bahrain	BHBAH	BHBASN	Bahrain	P
Baku	AZBAK	AZBAKU	Azerbaijan	P
Bandar Khomeini	IRBKM	IRBKMI	Iran	P
Barahona	DOBRX	DOBRXA	Dominican Republic	P
Barranquilla	COBAQ	COBAQA	Colombia	P
Big Creek	BZBGK	BZBGKK	Belize	P
Bizerte	TNBIZ	TNBIZE	Tunisia	P
Bleckede	DEBKD	DEBLEE	Germany	P
Boizenburg	DEBOI	DEBOIG	Germany	P
Buenaventura	COBUN	COBUNA	Colombia	P
Busan	KRPUS	KRPUSN	South Korea	P
Butinge Terminal	LTBOT	LTBOTL	Lithuania	P
Cape Good Hope (RP)				R
Cape Horn (RP)				R
Cape Londonderry		AUCALY	Australia - W.A	P
Casablanca	MACAS	MACASA	Morocco	P
Ceiba Terminal		GQCETL	Equatorial Guinea	P
Chalna	BDCHL	BDCHLA	Bangladesh	P
Chilung	TWKEL	TWKELG	Taiwan	P
Conakry	GNCKY	GNCKYY	Guinea	P
Corfu Is.		GRCOIS	Greece	P
Corinth	GRCRG	GRCRGGH	Greece	P
Cotonou	BJCOO	BJCOOU	Benin	P
Curacao	ANCUR	ANCURO	Netherlands Antil	P

Dampier	AUDAM	AUDAMR	Australia - W.A	P
Den Helder	NLDHR	NLDHRR	Netherlands	P
Dhekelia	CYDHK	CYDHKA	Cyprus	P
Dholera	INDHR	INDHRA	India	P
Diamond Harbour		INDIHR	India	P
Dighi	INDIG	INDIGI	India	P
Djibouti	DJJIB	DJJIBI	Djibouti	P
Dominica Pass		DMDOPS	Dominican Republic	P
Drapetzona	GRDPA	GRDPAA	Greece	P
Drummond		USDRUD	U.S.A - Michigan	P
Elang Terminal		AUELTL	Australia - W.A	P
Elat	ILETH	ILEHTT	Israel	P
Elephant Point (BU)		MMELPT	Myanmar	P
Ennore	INENR	INENRE	India	P
Esperance	AUEPR	AUEPRE	Australia - W.A	P
Etame Terminal	GAETA	GAETTL	Gabon	P
Everton		GYEVEN	Guyana	P
Fauji Oil Terminal		PKFAOT	Pakistan	P
Fond Mombin	HTFOM	HTFOMN	Haiti	P
Fort De France	MQFDF	MQFDFE	France - Martinique	P
Freeport (BM)	BMFPT	BMFPTT	Bermuda	P
Fremantle	AUFRE	AUFREE	Australia - W.A	P
Gamba Terminal		GAGATL	Gabon	P
Gandhar	INGAN	INGANR	India	P
Geelong	AUGEX	AUGEXG	Australia - Victo	P
Georgetown (GY)	GYGEO	GYGEON	Guyana	P
Gijon	ESGIJ	ESGIJN	Spain	P
Goa	INGOI	INGOIA	India	P
Gresik	IDGRE	IDGREK	Indonesia	P
Guayaquil	ECGYE	ECGYEL	Ecuador	P
Haifa	ILHFA	ILHFAA	Israel	P
Haiphong	VNHPH	VNHPHG	Vietnam	P
Halong		VNHALG	Vietnam	P
Hastings (AU)	AUHAS	AUHASS	Australia - Victo	P
Hoquiam	USHQM	USHQMM	U.S.A - Washington	P
Hunafloi		ISHUNI	Iceland	P
Hvammstangi	ISHVM	ISHVMI	Iceland	P

Jakarta	IDJKT	IDJKTA	Indonesia	P
Kalmar	SEKLR	SEKLRR	Sweden	P
Kilindini	KEKIL	KEKILN	Kenya	P
Kingston (JM)	JMKIN	JMKINN	Jamaica	P
Kingstown	VCKTN	VCKTNN	Saint Vincent And Grenadines	P
Klaipeda	LTKLJ	LTKLJA	Lithuania	P
Koge	DKKOG	DKKOG	Denmark	P
Kotor	CSKOT	CSKOTR	SERBIA AND MONTENEGRO	P
Kowloon	HKKWN	HKKWNN	China Hongkong	P
Kuwait	KWKWI	KWKWIT	Kuwait	P
Kwinana	AUKWI	AUKWIA	Australia - W.A	P
Ky Ha	VNKYH	VNKYHA	Vietnam	P
La Baule Escoublac	FROBC	FRLABE	France	P
La Mailleraye		FRLAME	France	P
La Union	SVLUN	SVLUNN	El Salvador	P
Lamma Is	HKLAM	HKLAIS	China Hongkong	P
Lankaran	AZLAN	AZLANN	Azerbaijan	P
Libreville	GALBV	GALBVE	Gabon	P
Los Angeles	USLAX	USLAXS	U.S.A - California	P
Magellan Strait (RP)				R
Malau	FJMAL	FJMALU	Fiji	P
Mandalay		MMMANY	Myanmar	P
Mariager Fjord		DKMAFD	Denmark	P
Marsa Bashayer	SDMBH	SDMBHR	Sudan	P
Matane	CAMNE	CAMNEE	Canada - Quebec	P
Matarani	PEMRI	PEMRII	Peru	P
Mentone	AUMTN	AUMENE	Australia - Victo	P
Mina Abdulla	KWMIB	KWMIBA	Kuwait	P
Mobile	USMOB	USMOBE	U.S.A - Alabama	P
Mocambique Channel		MZMOCL	Mozambique	P
Mombasa	KEMBA	KEMBAA	Kenya	P
Mont Louis	CAMOL	CAMOLS	Canada - Quebec	P
Moorea		FRMOOA	French Polynesia	P
Mori (SB)		SBMORI	Solomon Island	P
Nabq		EGNABQ	Egypt	P
Narsarsuaq	GLUAK	GLUAKQ	Denmark Greenland	P
New Richmond	CANRC	CANRCD	Canada - Quebec	P

Norfolk	USORF	USORFK	U.S.A - Virginia	P
Nouakchott	MRNKC	MRNKCT	Mauritania	P
Nuuk	GLGOH	GLGOHK	Denmark Greenland	P
Nuweiba	EGNUW	EGNUWA	Egypt	P
Ocean Cay	BSOCE	BSOCEY	Bahamas	P
Off Bahrain		BHOFBN	Bahrain	P
Opotiki	NZBPK	NZOPOI	New Zealand	P
Orinoco River		VEORRR	Venezuela	P
Otranto	ITOTO	ITOTOO	Italy	P
Palau	ITPAU	ITPAUU	Italy	P
Pamatacual	VEPAM	VEPAML	Venezuela	P
Panama Canal (RP)				R
Papeete	PFPT	PFPTTE	French Polynesia	P
Paramaribo	SRPBM	SRPBMO	Suriname	P
Pasajes	ESPAS	ESPASS	Spain	P
Pedra De Lume		CVPEDL	Cape Verde	P
Port Latta	AUPLA	AUPLAA	Australia - Tasma	P
Port Louis (MU)	MUPLU	MUPLUS	Mauritius	P
Port Said	EGPSD	EGPSDD	Egypt	P
Port Said East		EGPOSE	Egypt	P
Port of Skulte	LVSKU	LVSKUE	Latvia	P
Porto Cervo	ITPCE	DMPORH	Italy	P
Portsmouth (DO)	DMPOR	DMPORH	Dominica	P
Portsmouth (Virginia)	USPTM	USPTMH	U.S.A - Virginia	P
Providence Channel		BSPRCL	Bahamas	P
Puerto Barrios	GTPBR	GTPBRS	Guatemala	P
Puerto Patache	CLPAT	CLPATE	Chile	P
Punta Gorda (BE)		BZPUGA	Belize	P
Ras Shukheir	EGRSH	EGRSHR	Egypt	P
Risdon Vale	AURDN	AURDNE	Australia - Tasma	P
Roomassaar	EEROO	EEROOR	Estonia	P
Rota (MP)		MPROTA	Northern Mariana	P
Rybinsk	RURYB	RURYBK	Russia	P
Sainte Croix		CASACX	Canada - Quebec	P
Samara	RUKUF	RUKUFA	Russia	P
San Fernando (TT)	TTSFE	TTSFEO	Trinidad & Tobago	P
San Jose (GT)	GTSNJ	GTSNJE	Guatemala	P

Sande		NOSANN	Norway	P
Sangar		RUSANR	Russia	P
Sawakin	SDSWA	SDSWAN	Sudan	P
Sepangar Bay		MYSEBY	Malaysia	P
Sept Iles	CASEI	CASEIS	Canada - Quebec	P
Serpiente Bay		TTSEBY	Trinidad & Tobago	P
Sevastopol	UASVP	UASVPL	Ukraine	P
Shanghai	CNSHA	CNSHAI	China	P
Siam Seaport	THSBP	THSBPT	Thailand	P
Sirte	LYSRT	LYSRTE	Libya	P
Skopje		MKSKOE	F.Y.R.O.M. (Macedonia)	P
Sokcho	KRSHO	KRSHOO	South Korea	P
St. Lucia Channel		LCSTLC	St. Lucia	P
St. Romuald	CASRO	CASROD	Canada - Quebec	P
Suez Canal (RP)				R
Swansea (AU)		AUSWAA	Australia - Tasma	P
Taboguilla Island	PATBG	PATBGD	Panama	P
Taboguilla Terminal		PATATL	Panama	P
Taeon	KRTAN	KRTANN	South Korea	P
Thursday Island	AUTIS	AUTISD	Australia Queensl	P
Tripoli (LB)	LBKYE	LBKYEI	Lebanon	P
Tripoli (LY)	LYTIP	LYTIPI	Libya	P
Urangan	AUURN	AUURNN	Australia Queensl	P
Ventspils	LVVNT	LVVNTS	Latvia	P
Veracruz	MXVER	MXVERZ	Mexico	P
Vientiane		LAVIEE	Laos	P
Vilvoorde	BEVIL	BEVILE	Belgium	P
Virtsu	EEVIR	EEVIRU	Estonia	P
Vlore	ALVOA	ALVOAE	Albania	P
Vuda Point	FJVUD	FJVUDT	Fiji	P
Wasum		PGWASM	Papua New Guinea	P
Whitegate	IEWHI	IEWHIE	Ireland	P
Yainville	FRYAV	FRYAIE	France	P
Yithion	GRGYT	GRGYTN	Greece	P
Yucatan Channel		MXYUCL	Mexico	P
Zahrani Terminal	LBZHR	LBZHRL	Lebanon	P
Zawia Terminal		LYZATL	Libya	P

Zhenzhou	CNYIZ	CNYIZU	China	P
Zhongshan	CNZSN	CNZSNN	China	P