

Future Trends in West Coast South America Shipping System

Asaf Ashar

National Ports & Waterways Institute, USA

www.asafashar.com



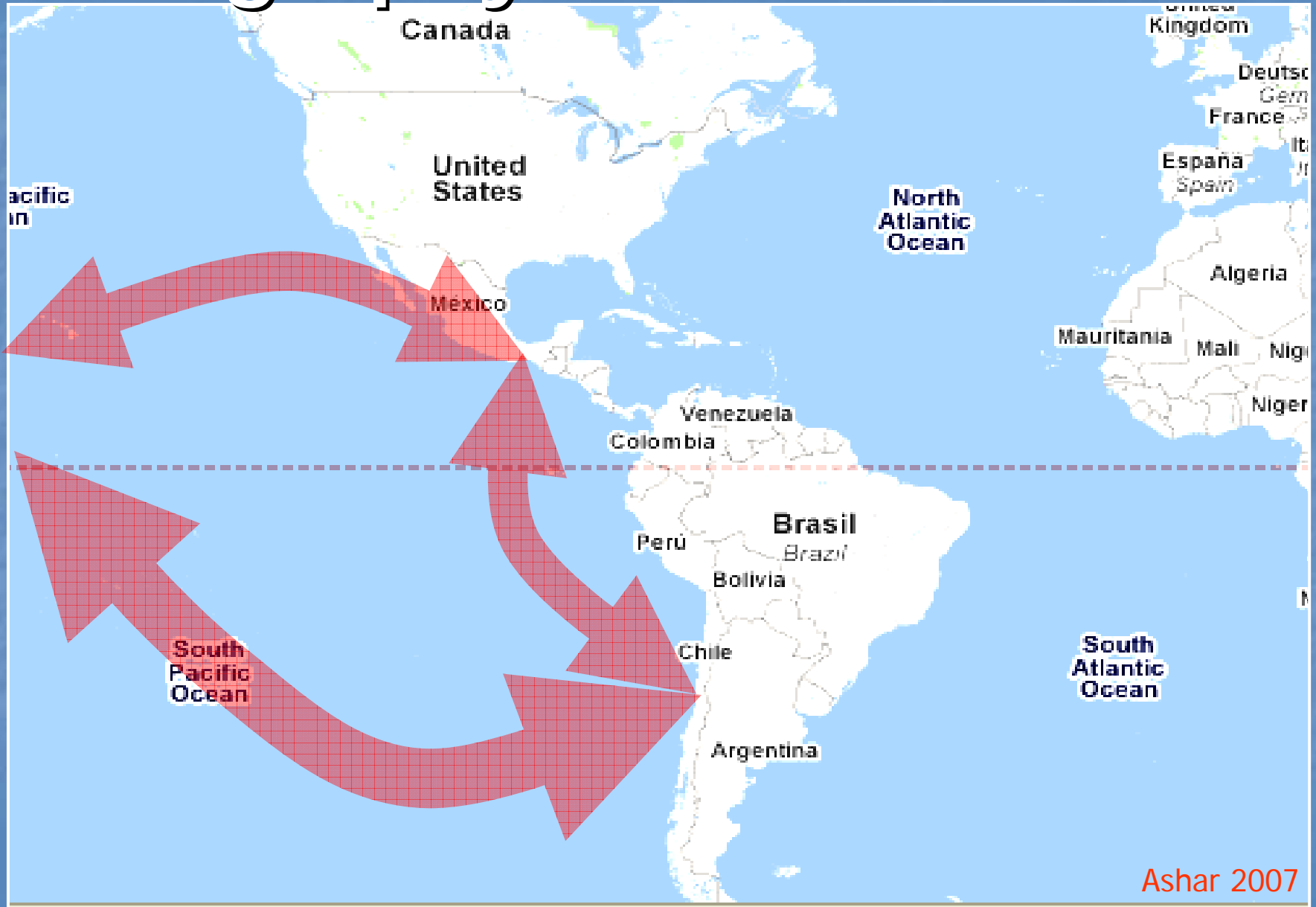
Presentation Outline

- The *Theory of Service Pattern*
- Asia / West Coast South America Trades
- Present Service Patterns
- Changes: Asian Trade Growth; WCSA New Terminals; Panama Canal Expansion
- Future Service Patterns: *Direct vs. Transshipment; "Fourth Revolution"?*
- Port Implications: *In Panama vs. Near Panama*

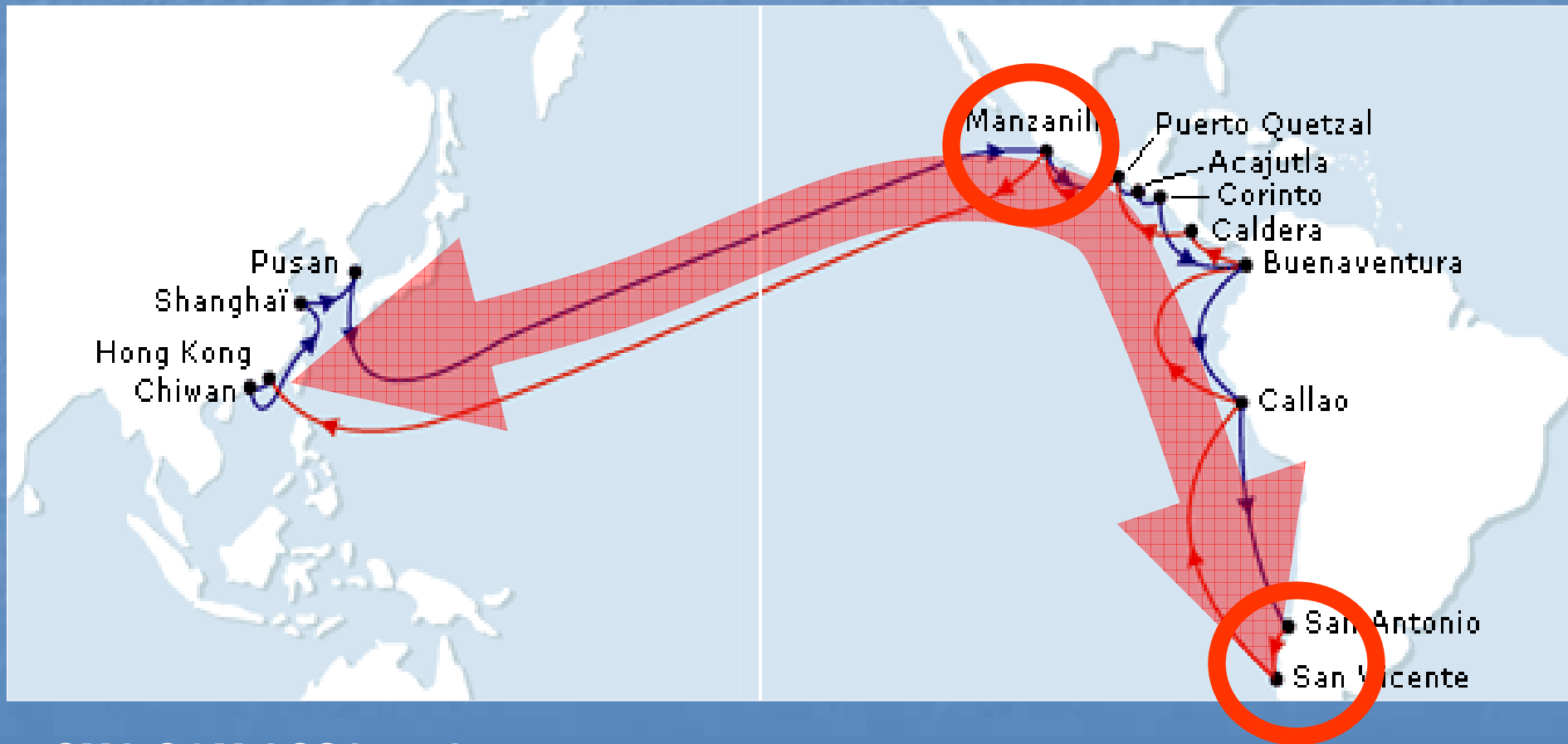
Theory of Service Pattern

- “Conversion” of a *Trade Flow* into a *Shipping System* (route, ports, ships)
- Depends On:
 - Geography: location of trading regions, distances, route conditions (restrictions)
 - Traffic: Port Pairs, Directions, Types, Seasonality
 - Costs: Ship, Port, Land Transport Components
 - Revenues: Transit Times, Frequency, Reliability
 - Strategy: Fastest, Lowest Cost, Reefer
 - Related Services: = *Network*
- Optimization (Adaptation)

Geography and Trade Flows

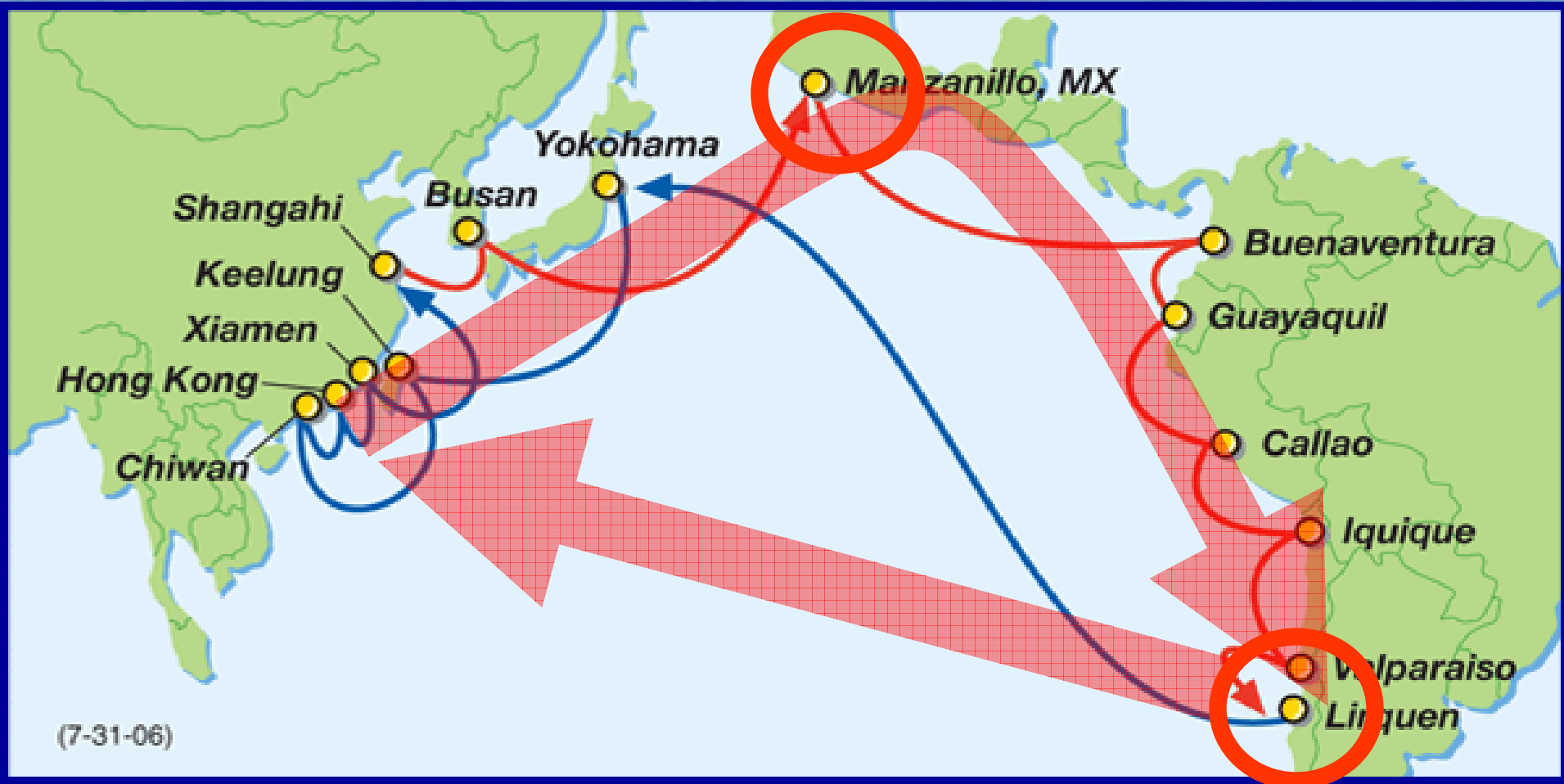


Direct Service – “L”



CMA CGM ACSA 77 days, 20 ports

Direct Service – *“Triangle”*



Transshipment via Panama Hub



Evergreen Pendulum + WCSA Feeder



Direct vs. T/S Services (Callao)

Type	Line	Service Name	Shanghai	Hong Kong
Direct	CCNI / Hamburg Sud	CES / ASPA1	28	22
	CSAV	ANDEX	28	32
	Maruba /CLAN /CMA CGM/CSCCL	CLAN	27	30
	MOL / K Line	CWL / Andes	25	28
	NYK	ALEX	32	29
T/S Panama	Maersk	Peru Feeder	30	34
	APL	PAX	33	30
	MSC		29	32
	Evergreen	PWS	30	30

Source: JOC and lines' schedules

Conflicting Future Developments

- New WCSA Terminals – Allows Larger Ships (Post Panamax?) and favors *Direct* Services
- Panama Canal Expansion – Induces E/W All-Water Services and favors *Transshipment*
- Global Re-Structuring favors *“Fourth Revolution”*

Future Direct Services

Direct – Shorter Triangle

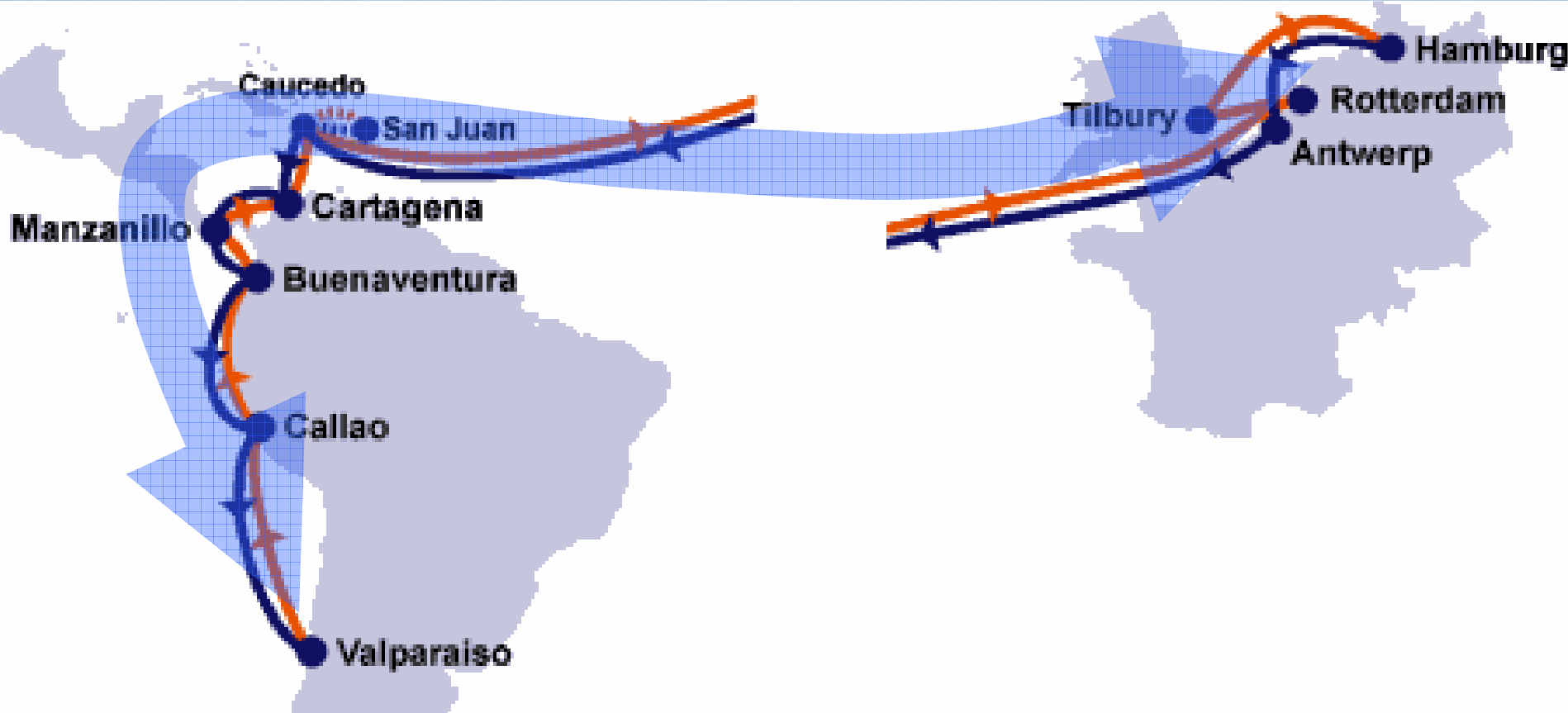


Direct – 2 Triangles + Reg. Hub



Future Transshipment Services and Fourth Revolution

N Europe / WCSA Diagonal

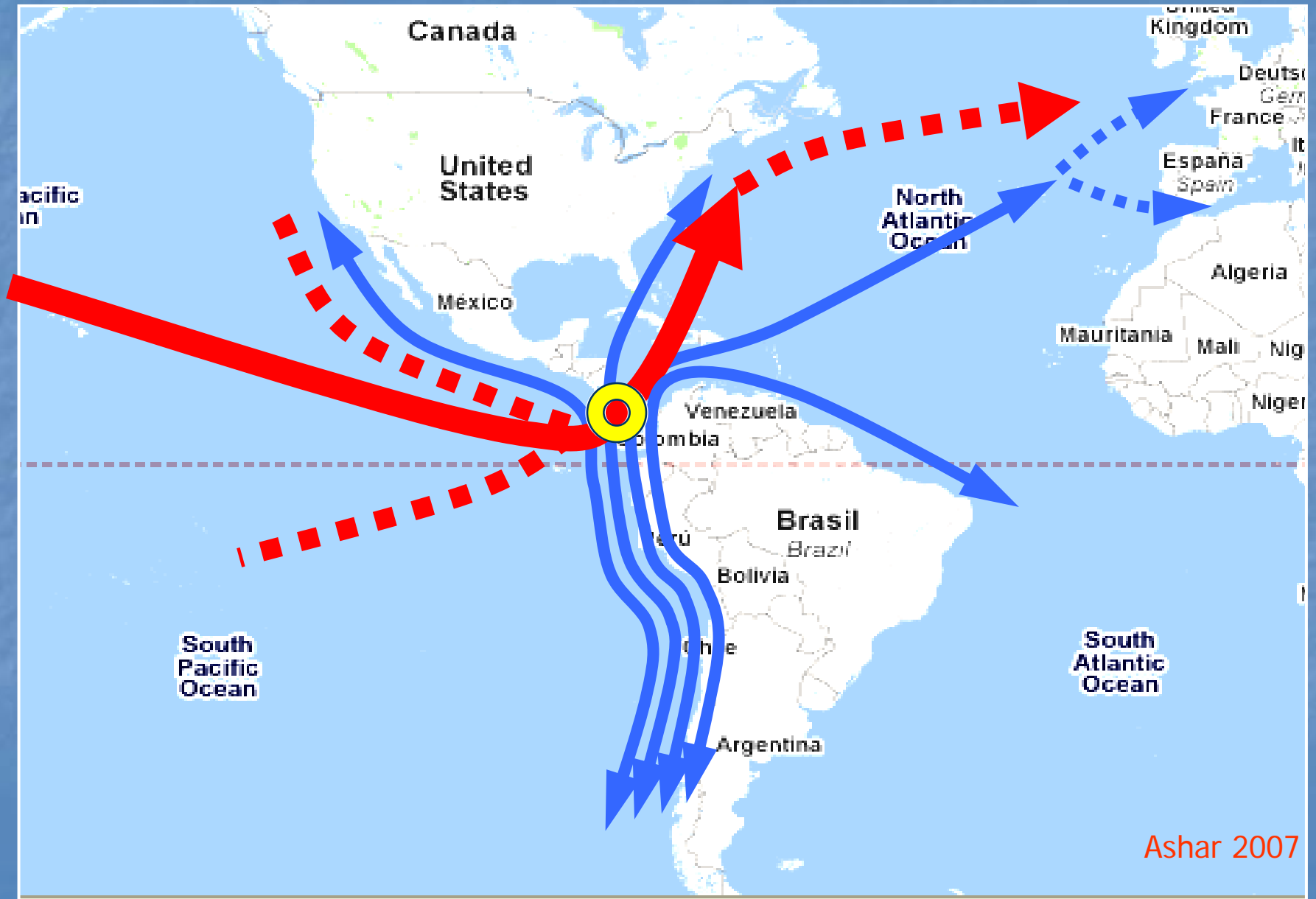


Eurosal Loop 1 (CSAV / Hapag Lloyd /
CMA CGM / Hamburg Sud)

NAEC / WCSA Diagonal



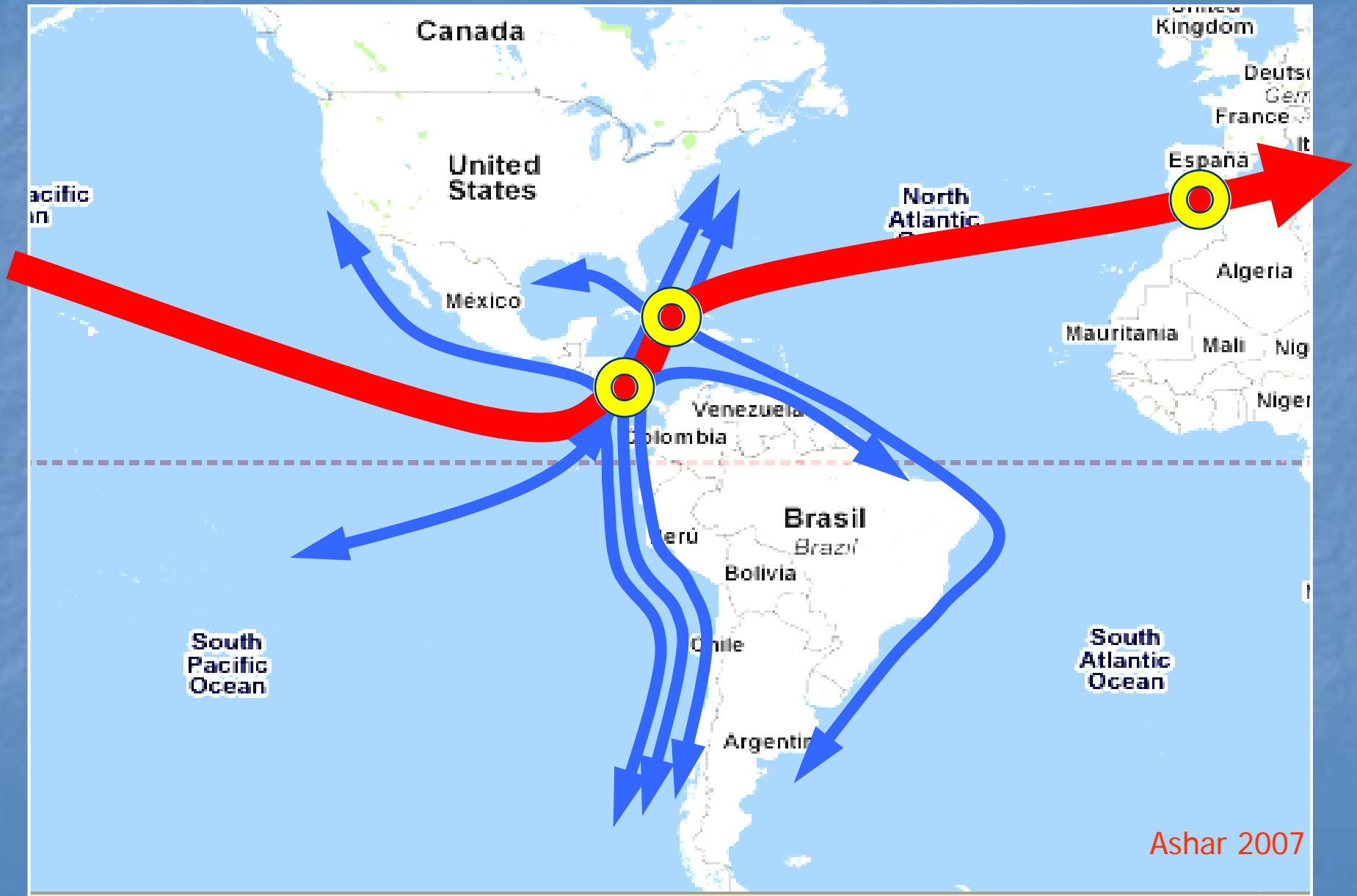
Transship. – *E/W & N/S Integration*



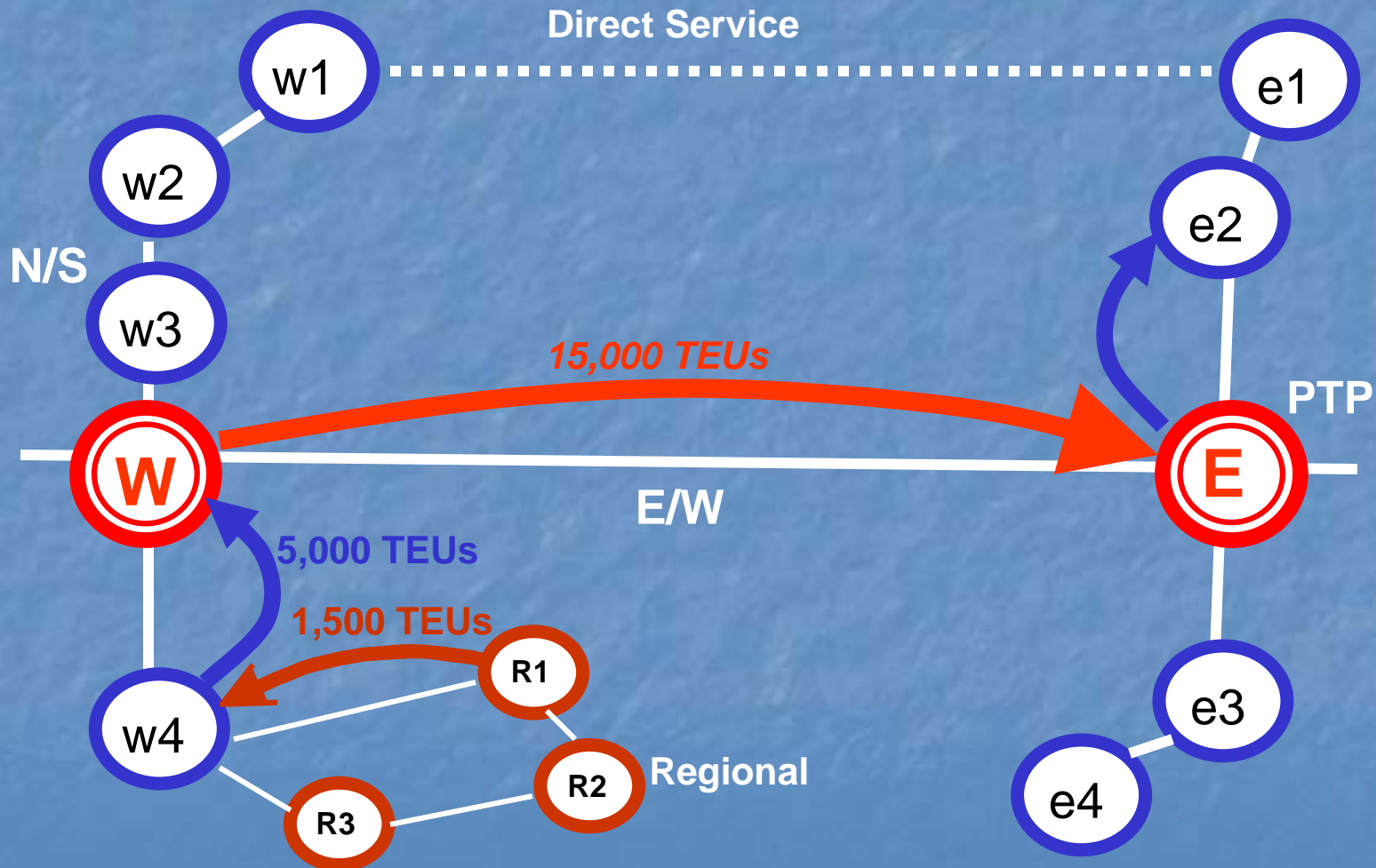
Future Scenarios

Hub Ports		Liner Market Structure	Service Pattern
Availability (Panama); Control	Productivity, Cost		
Shortage; Port Operators	100 Moves/Hour; \$150 Ship-Ship	Retain Independent N/S, Specialists Remain	Direct Dominates
Sufficient; Lines	400 Moves/Hour; \$75 Ship-Ship	Merge E/W + N/S, Specialists Disappear	Transshipment Dominates; <i>Fourth Revolution</i>

Fourth Revolution's *Regional Grid*



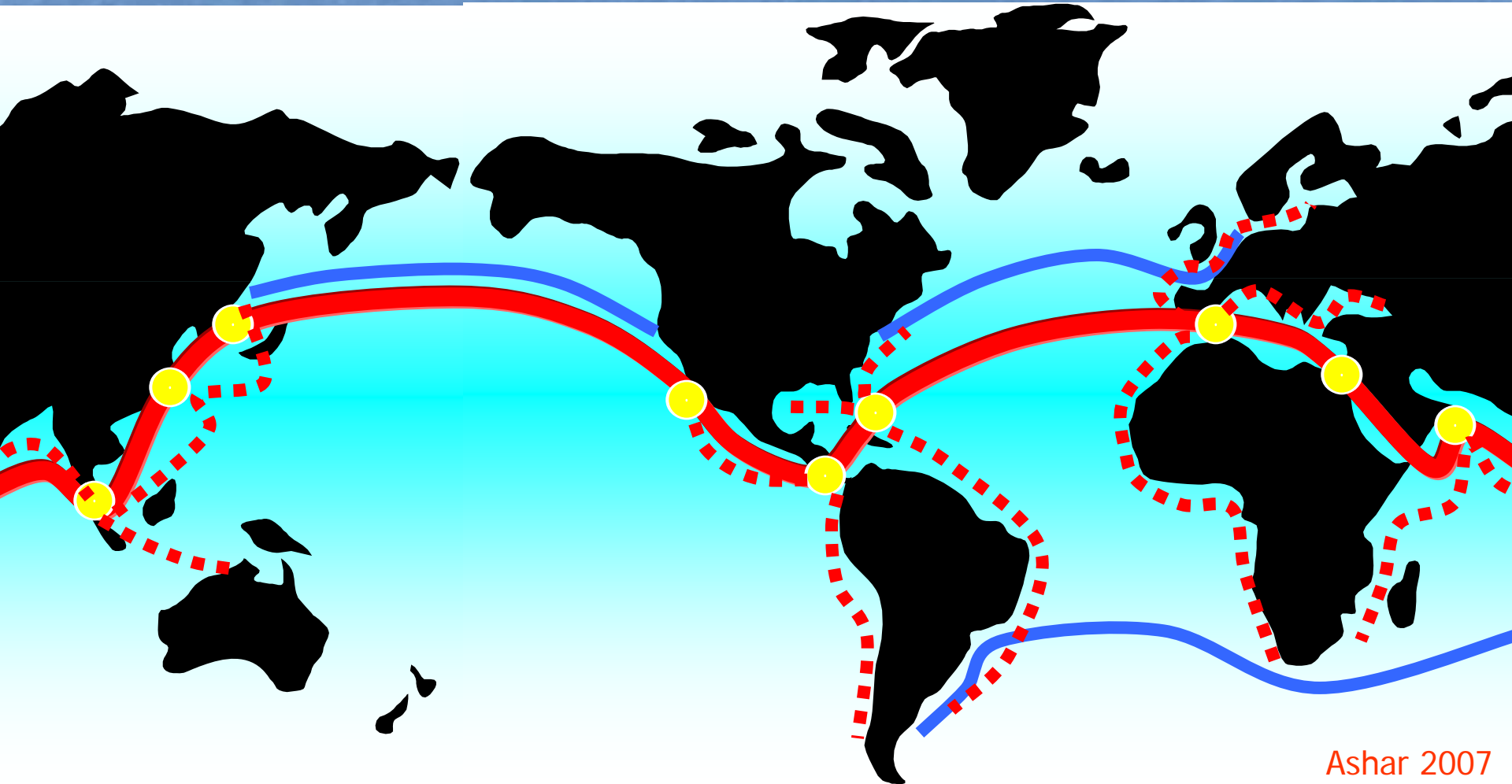
"Global Grid": E/W, N/S & Regional



Components of *“Fourth Revolution”*

- E/W Services – Only Calling PTPs (*ERTW*)
- N/S Services – Also Feeders to E/W
- PTPs – Located at E/W & N/S Intersections
- PTPs – Specializing in Ship-to-Ship Transfer
- Routing -- Multiple Legs
- Results -- *“Total Connectivity”*

Fourth Revolution's *Global Grid*



In vs. Near Panama Hubs



Central America & the Caribbean

0 1000 km

Ashar 2007

Direct, Transshipment, Fourth Revolution?

Thank you!

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