Project Redes de Alto Débito (23/24)

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Bologna Master Degree in Electrical and Computer Engineering
as a part of the
MIR – EMJMD in marine and maritime intelligent robotics
December 30, 2023

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3.1 First phase.

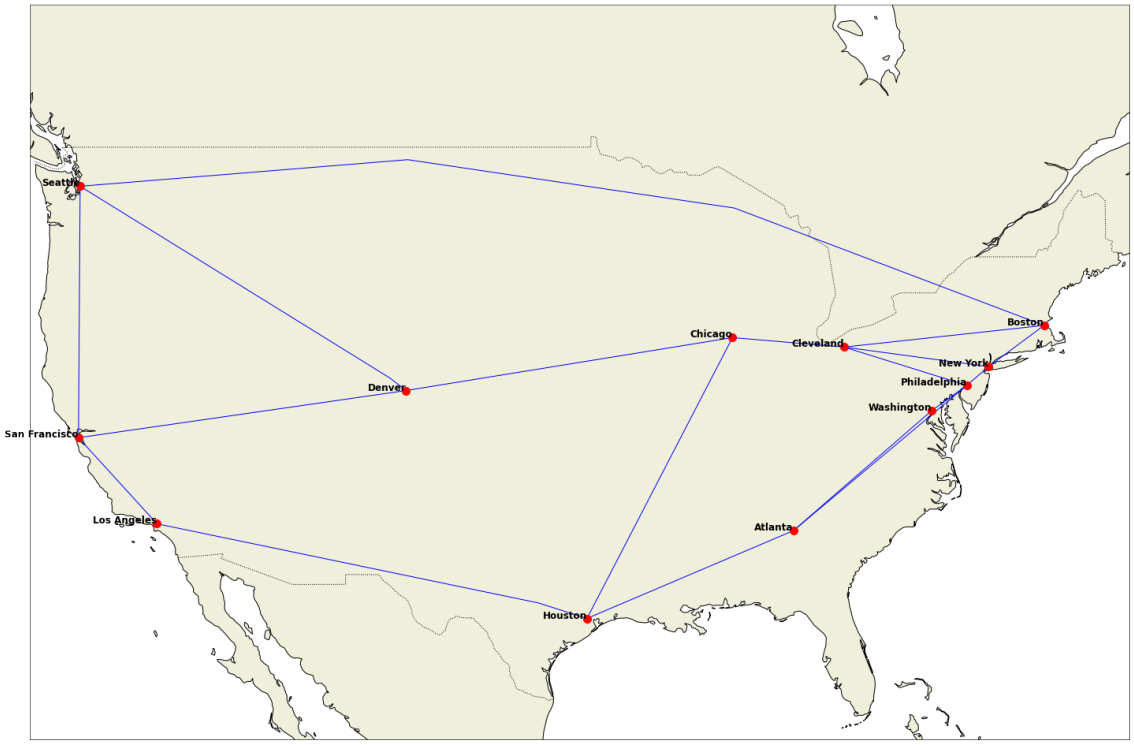

Figure 1: Extended (vBNS) backbone network with link between Seattle and Boston.

No.	City	Acronym	δ
1	Seattle	SEA	3
2	San Francisco	SF	3
3	Denver	DEN	3
4	Los Angeles	LA	2
5	Chicago	CHI	3
6	Houston	HOU	3
7	Cleveland	CLE	4
8	Atlanta	ATL	3
9	Washington	WSH	2
10	Philadelphia	PHI	4
11	New York	NY	3
12	Boston	BOS	3

Table 1: Node degree in the extended (vBNS) backbone network.

$$\mu = \bar{\delta} = \frac{1}{N}\sum_{i=1}^{N} x_i \tag{1}$$

$$\sigma^2(\delta) = \frac{1}{N}\sum_{i=1}^{N}(x_i - \mu)^2 \tag{2}$$

Number of Nodes: 12 Number of links: 18.0 Average Node Degree: [3.0] Network Diameter: [5]

To perform this study,one assumes that the network is described through an unweighted graph.

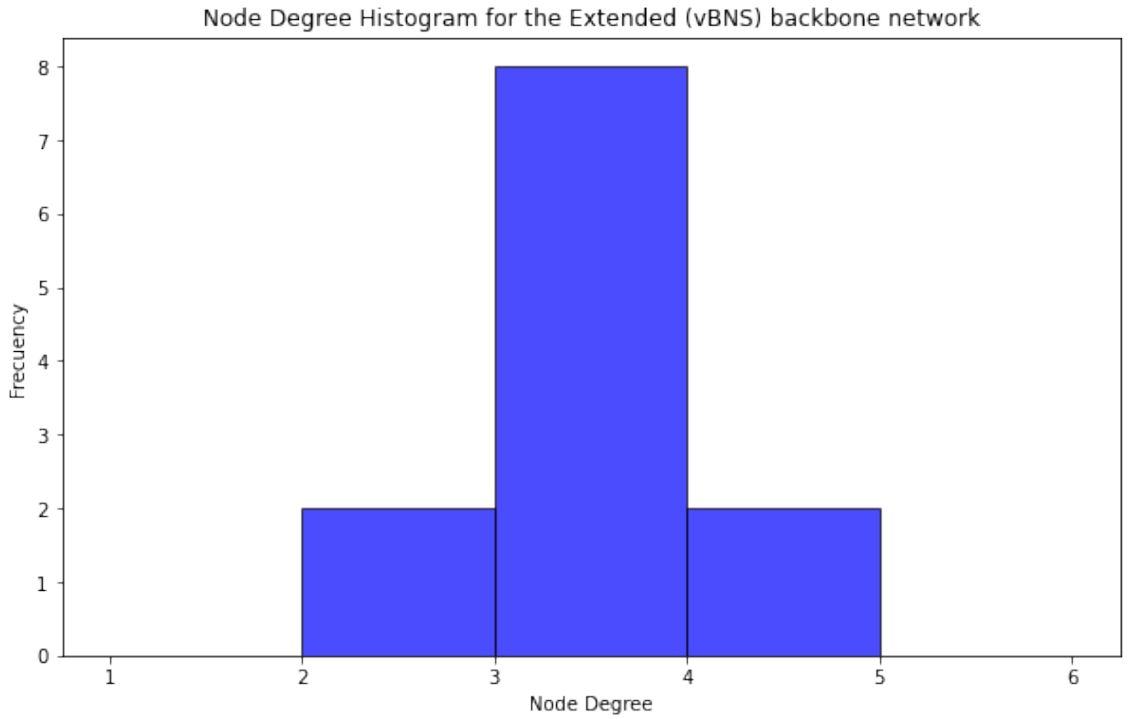

Figure 2: histogram for the extended (vBNS) backbone network.

3.2 Second Phase.

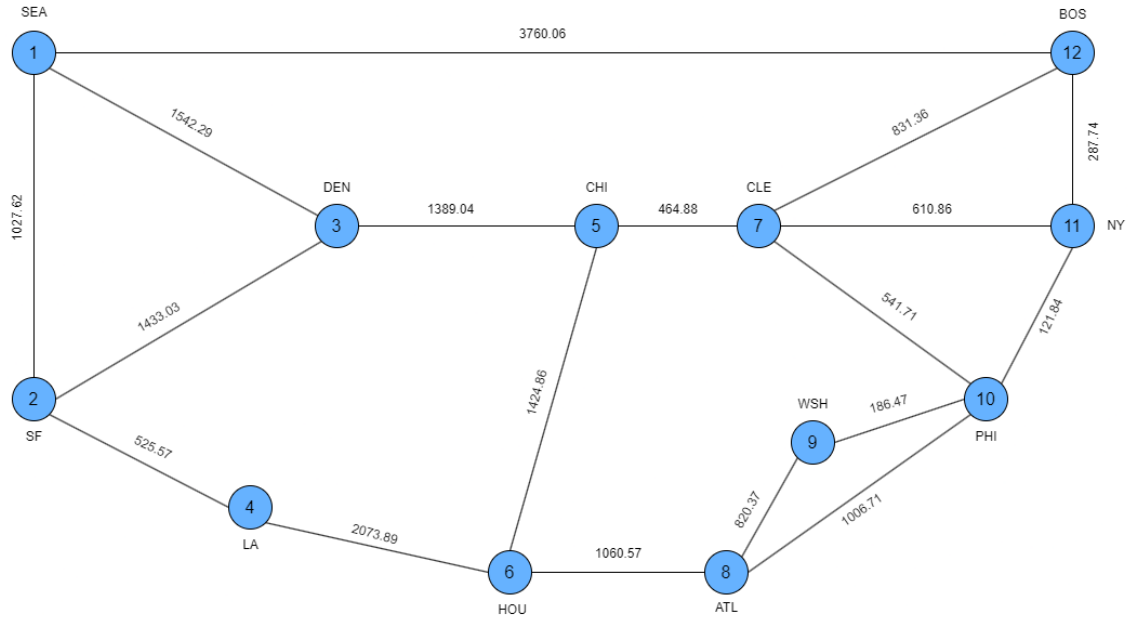

Figure 3: Extended (vBNS) weighted graph.

$$Au = \begin{bmatrix} 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 1 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 & 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 1 \\ 1 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 1 & 0 \end{bmatrix} \quad (3)$$

	SEA	SF	DEN	LA	CHI	HOU	CLE	ATL	WSH	PHI	NY	BOS
SEA	0	1	1	0	0	0	0	0	0	0	0	1
SF	1	0	1	1	0	0	0	0	0	0	0	0
DEN	1	1	0	0	1	0	0	0	0	0	0	0
LA	0	1	0	0	0	1	0	0	0	0	0	0
CHI	0	0	1	0	0	1	1	0	0	0	0	0
HOU	0	0	0	1	1	0	0	1	0	0	0	0
CLE	0	0	0	0	1	0	0	0	0	1	1	1
ATL	0	0	0	0	0	1	0	0	1	1	0	0
WSH	0	0	0	0	0	0	0	1	0	1	0	0
PHI	0	0	0	0	0	0	1	1	1	0	1	0
NY	0	0	0	0	0	0	1	0	0	1	0	1
BOS	1	0	0	0	0	0	1	0	0	0	1	0

Table 2: Au

asdasfasfasfasf

Existen diferentes utilidades para poder convertir una tabla de datos que tienes en Excel a una tabla en LaTeX. Hoy quiero hablar de un complemento para Excel llamado excel2latex. Este complemento es un fichero de extensión .xla y que funciona tanto en Excel para Windows como para Mac OS X a partir de la versión 2007 o posterior.

Una vez abierto el fichero .xla se instala el complemento en vuestro Excel mostrando nuevas opciones en la barra de herramientas y en el menú (en Mac OS X – menú Formato). Para usarlo es tan sencillo como: seleccionar los datos de la tabla que se quieren exportar, y elegir la opción 'convertir tabla a LaTeX'. Nos aparecerá una ventana de diálogo con algunas opciones de configuración y el código para LaTeX, tan sólo hay que copiar y pegarlo en tu editor LaTeX.

	SEA	SF	DEN	LA	CHI	HOU	CLE	ATL	WSH	PHI	NY	BOS
SEA	0.0	1027.62	1542.29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3760.06
SF	1027.62	0.0	1433.03	525.57	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEN	1542.29	1433.03	0.0	0.0	1389.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LA	0.0	525.57	0.0	0.0	0.0	2073.89	0.0	0.0	0.0	0.0	0.0	0.0
CHI	0.0	0.0	1389.04	0.0	0.0	1424.86	464.88	0.0	0.0	0.0	0.0	0.0
HOU	0.0	0.0	0.0	2073.89	1424.86	0.0	0.0	1060.57	0.0	0.0	0.0	0.0
CLE	0.0	0.0	0.0	0.0	464.88	0.0	0.0	0.0	0.0	541.71	610.86	831.36
ATL	0.0	0.0	0.0	0.0	0.0	1060.57	0.0	0.0	820.37	1006.71	0.0	0.0
WSH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	820.37	0.0	186.47	0.0	0.0
PHI	0.0	0.0	0.0	0.0	0.0	0.0	541.71	1006.71	186.47	0.0	121.84	0.0
NY	0.0	0.0	0.0	0.0	0.0	0.0	610.86	0.0	0.0	121.84	0.0	287.74
BOS	3760.06	0.0	0.0	0.0	0.0	0.0	831.36	0.0	0.0	0.0	287.74	0.0

Table 3: Aw

3.3 Third phase.

4 Conluction

5 References