Comparation of fit (MAE/M) of all investigated models.

Time series	Protocol	Zero-one		Naïve approach			MA	AR								ARIMA/SARIMA		ANN			
								Holt-Winters		Taylor		MNK		LAD				MLP		RBF	
		24 variables	25 variables	1 measurement	day	week		Cumulative	Basic series	Taylor 1	Taylor 2	1 measurement	1 measurement, day, week	1 measurement	1 measurement, day, week	Parameters	MAE/M	Structure	MAE/M	Structure	MAE/M
W1	TCP	71,70%		45,83%	93,70%	100,51%	51,85%	58,23%	45,92%	45,92%	45,94%	53,52%	54,03%	45,16%	45,07%	(7,0,0)(0,0,2)	50,22%	2-1-1 (-1,-3)	46,18%	4-7-1	47,33%
W1	UDP	80,92%		30,88%	104,69%	91,29%	38,50%	71,62%	30,19%	30,19%	25,54%	34,06%	33,07%	30,35%	29,70%	(2,1,0)(0,0,1)	31,00%	1-2-1 (-1)	31,73%	3-7-1	33,28%
W1	ICMP	140,79%		31,80%	164,13%	127,14%	35,39%	57,89%	31,27%	31,27%	30,72%	32,68%	32,28%	31,71%	31,32%	(1,0,1)(1,0,1)	31,57%	4-2-1 (-1, -2, -3, -144)	34,54%	6-7-1	36,63%
T2	TCP	15,27%		4,24%	16,07%	99,59%	5,13%	8,72%	4,19%	4, 20%	4,14%	4,22%	4,15%	4,21%	4,15%	(5,0,0)(0,0,4)	4,20%	1-1-1 (-1)	4,23%	3-10-1	4,28%
T2	UDP	39,59%		15,71%	37,34%	98,37%	18,03%	25,92%	15,87%	15,87%	17,76%	16,56%	16,64%	15,54%	15,58%	(0,1,3)(3,0,0)	16,20%	5-1-1 (-1, -2, -3, -144, -1009)	15,41%	5-2-1	17,07%
T2	ICMP	42,12%		8,62%	43,54%	54,99%	11,14%	22,99%	8,53%	8,53%	7,47%	8,71%	8,59%	8,60%	8,47%	(4,1,0)	8,60%	2-2-1 (-1, -2)	8,66%	3-12-1	9,65%
T3	TCP	12,55%		4,09%	15,77%	99,73%	4,94%	8,70%	4,11%	4,11%	3,95%	4,06%	4,07%	4,06%	4,07%	(3,1,1)(0,1,2)	4,25%	1-1-1 (-1)	4,07%	3-7-1	4,31%
T3	UDP	28,33%		15,17%	36,17%	102,65%	17,55%	25,95%	15,45%	15,45%	15,53%	15,10%	15,12%	15,02%	15,09%	(1,0,1)(1,0,1)	14,99%	1-1-1 (-1)	15,05%	5-2-1	22,13%
T3	ICMP	41,54%		8,72%	45,17%	60,98%	11,30%	19,67%	8,69%	8,69%	8,79%	8,82%	8,75%	8,71%	8,62%	(1,0,1)(1,0,1)	8,84%	3-1-1 (-1, -3, -1008)	8,91%	5-2-1	21,86%
M4	TCP	166,85%		50,53%	184,39%	106,51%	61,59%					58,48%	60,06%	50,25%	51,33%						
M4	UDP	36,66%		31,14%	49,07%	101,58%	29,17%					32,12%	30,36%	30,28%	29,31%						
M4	ICMP	18,68%		15,23%	24,66%	27,59%	14,34%					16,03%	15,76%	14,48%	14,35%						
I5	TCP	92,37%	66,81%	40,36%	148,16%	102,44%	46,94%					48,46%	51,45%	39,66%	42,71%						
I5	UDP	81,31%	49,54%	52,50%	132,03%	104,41%	51,93%					62,28%	63,29%	49,47%	51,26%						
I5	ICMP	153,62%	150,60%	147,57%	167,29%	163,53%	148,89%					149,86%	112,29%	100,03%	75,78%						
MM	TCP	158,67%		66,84%	172,90%	96,10%	79,72%	110,23%	64,40%	64,47%	48,89%	77,26%	74,67%	64,72%	62,40%	(3,0,0)	65,86%	2-2-1 (-1, -2)	75,72%	6-10-1	82,64%
MM	UDP	48,60%		30,21%	62,23%	99,82%	31,28%	35,72%	28,88%	30,03%	23,88%	35,60%	33,79%	29,68%	29,25%	(4,0,0)(0,0,3)	29,87%	4-1-1	30,12%	3-7-1 (-1,-2,-3)	29,11%
MM	ICMP	21,08%		11,13%	25,85%	27,78%	11,29%	14,01%	10,57%	10,57%	10,58%	11,45%	11,40%	11,13%	11,08%	(0,1,5)	10,71%	3-1-1	10,93%	3-13-1 (-1,-2,-3)	10,77%
II	TCP	99,36%		36,27%	111,35%	98,95%	41,63%	58,29%	36,42%	36,42%	34,14%	43,73%	39,70%	36,93%	35,45%	(1,0,1)(1,0,1)	38,62%	2-1-1	41,14%	4-10-1 (-1, -2, -3, -1008)	38,97%
II	UDP	87,97%		52,44%	95,70%	98,86%	50,98%	58,63%	49,55%	49,55%	44,86%	64,53%	54,78%	50,83%	47,99%	(6,0,0)(1,0,0)	48,31%	5-1-1 (-1, -2, -3, -144, 1008)	48,42%	5-8-1	49,24%
II	ICMP	159,42%		110,38%	180,98%	169,29%	113,97%	132,34%	110,65%	110,65%	71,88%	135,20%	137,09%	94,57%	97,25%	(4,0,0)(0,0,1)	102,21%	1-1-1	116,44%	3-7-1 (-1,-2,-144)	114,43%

Source: Szmit M., Szmit A. : Use of Holt-Winters method in the analysis of network traffic. Case study, Springer Communications in Computer and Information Science vol. 160, 18th Conference Computer Networks, 2011, pp. 224-231, ISSN: 1865-0929; ISBN: 978-3-642-21770-8; Szmit M.: Využití nula-jedničkových modelů pro behaviorální analýzu síťového provozu, [in:] Internet, competitiveness and organizational security, Tomas Bata University Zlín 2011, pp. 266-299, ISBN 978-83-61645-16-0; Szmit M., Szmit A. : Usage of Pseudo-estimator LAD and SARIMA Models for Network Traffic Prediction. Case Studies, Communications in Computer and Information Science, 2012, Volume 291, 229-236; Szmit M., Szmit A. : Usage of Modified Holt-Winters Method in The Anomaly Detection of Network Traffic. Case Studies, Journal of Computer Networks and Communications, vol. 2012, DOI: 10.1155/2012/192913; Szmit M., Adamus S., Bugała S., Szmit A. : Usage of Holt-Winters Model and Multilayer Perceptron in Network Traffic Modelling and Anomaly Detection, Informatica Vol. 36, Nr 4 (2012), pp. 359-368 ISSN: 0350-5596; Jašek R., Szmit A., Szmit M.: Usage of Modern Exponential-Smoothing Models in Network Traffic Modelling, Advances in Intelligent Systems and Computing Volume 210, 2013, pp. 435-444; Szmit A., Szmit M.: Usage of RBF Networks in prediction of network traffic, Federated Conference on Computer Science and Information Systems, Kraków 2013.