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Mixed integer nonlinear programming (MINLP)-based bandwidth utility function on internet pricing scheme with monitoring and marginal cost

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The development of the internet in this era of globalization has increased fast. The need for internet becomes unlimited. Utility functions as one of measurements in internet usage, were usually associated with a level of satisfaction of users for the use of information services used. There are three internet pricing schemes used, that are flat fee, usage based and two-part tariff schemes by using one of the utility function which is Bandwidth Diminished with Increasing Bandwidth with monitoring cost and marginal cost. Internet pricing scheme will be solved by LINGO 13.0 in form of nonlinear optimization problems to get optimal solution. The optimal solution is obtained using the either usage-based pricing scheme model or two-part tariff pricing scheme model for each services offered, if the comparison is with flat-fee pricing scheme. It is the best way for provider to offer network based on usage based scheme. The results show that by applying two part tariff scheme, the providers can maximize its revenue either for homogeneous or heterogeneous consumers. Copyright © 2019 Institute of Advanced Engineering and Science. All rights reserved.

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




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-
- 1 Tjahjanto, Sitohang, B., Wiryono, S.K.
Simulation and implementation model of productivity measurement internet bandwidth usage

(2015) *Telkomnika (Telecommunication Computing Electronics and Control)*, 13 (3), pp. 1069-1078. Cited 2 times.
<http://journal.uad.ac.id/index.php/TELKOMNIKA/article/download/1544/pdf/247>
doi: 10.12928/telkomnika.v13i3.1544

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-
- 2 Curescu, C.
Utility-based optimisation of resource allocation for wireless networks
(2005) *Department of Computer and Information Science*, p. 178. Cited 4 times.
Linköpings universitet: Linköping.
-
- 3 Yang, W.
Pricing network resources in differentiated service networks
(2004) *School of Electrical and Computer Engineering*, pp. 1-111. Cited 12 times.
Phd Thesis. Georgia Institute of Technology.
-
- 4 Yang, W., Owen, H.L., Blough, D.M.
Determining differentiated services network pricing through auctions
(2005) *Networking-ICN 2005, 4th International Conference on Networking April 2005 Proceedings, Part I*. Cited 6 times.
Reunion Island, France,: Springer-Verlag Berlin Heidelberg
-
- 5 Sitepu, R., Puspita, F.M., Pratiwi, A.N., Novyasti, I.P.
Utility function-based pricing strategies in maximizing the information service provider's revenue with marginal and monitoring costs

(2017) *International Journal of Electrical and Computer Engineering*, 7 (2), pp. 877-887. Cited 12 times.
<http://www.iaescore.com/journals/index.php/IJECE/article/view/6436/6290>
doi: 10.11591/ijece.v7i2.pp877-887

View at Publisher
-

- 6 Wu, S.-Y., Banker, R.D.
Best pricing strategy for information services
(2010) *Journal of the Association for Information Systems*, 11 (6), pp. 339-366. Cited 53 times.
<http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1541&context=jais>
doi: 10.17705/1jais.00229
View at Publisher
-
- 7 Yang, W., Owen, H., Blough, D.M.
A comparison of auction and flat pricing for differentiated service networks (Open Access)
(2004) *IEEE International Conference on Communications*, 4, pp. 2086-2091. Cited 13 times.
-
- 8 Bandung, Y., Sumardi, I.
A methodology for characterizing real-time multimedia quality of service in limited bandwidth network (Open Access)
(2016) *Telkomnika (Telecommunication Computing Electronics and Control)*, 14 (4), pp. 1534-1544. Cited 4 times.
<http://journal.uad.ac.id/index.php?journal=TELKOMNIKA&page=issue&op=archive>
doi: 10.12928/TELKOMNIKA.v14i4.3295
View at Publisher
-
- 9 Satria, M.H., Yunus, J.B., Supriyanto, E.
802.11s QoS routing for telemedicine service
(2014) *International Journal of Electrical and Computer Engineering*, 4 (2), pp. 265-277. Cited 5 times.
<http://iaesjournal.com/online/index.php/IJECE/article/view/5597/2872>
doi: 10.11591/ijece.v4i2.5597
View at Publisher
-
- 10 Barth, D., Deschinkel, K., Diallo, M., Echabbi, L.
Pricing, QoS and utility models for the internet
(2004) *Rapport De Recherche Interne # 2004/60*. Cited 4 times.
Laboratoire Prism
-
- 11 Panimozhi, K., Mahadevan, G.
QoS framework for a multi-stack based heterogeneous wireless sensor network
(2017) *International Journal of Electrical and Computer Engineering*, 7 (5), pp. 2713-2720. Cited 11 times.
<http://ijece.iaescore.com/index.php/IJECE/article/view/8223/6949>
doi: 10.11591/ijece.v7i5.pp2713-2720
View at Publisher
-
- 12 Indrawati, Irmeilyana, Puspita, F.M., Lestari, M.P.
Cobb-Douglass utility function in optimizing the internet pricing scheme model (Open Access)
(2014) *Telkomnika (Telecommunication Computing Electronics and Control)*, 12 (1), pp. 227-240. Cited 13 times.
http://journal.uad.ac.id/index.php/TELKOMNIKA/article/download/18/pdf_75
doi: 10.12928/TELKOMNIKA.v12i1.1800
View at Publisher

- 13 Sitepu, R., Puspita, F.M., Apriliyani, S.
Utility function based-mixed integer nonlinear programming (MINLP) problem model of information service pricing schemes ([Open Access](#))

(2017) *Proceedings of 2017 International Conference on Data and Software Engineering, ICoDSE 2017*, 2018-January, art. no. 8285892, pp. 1-6. Cited 7 times.

ISBN: 978-153861449-5

doi: 10.1109/ICODSE.2017.8285892

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- 14 Puspita, F.M., Oktaryna, M.
Improved bundle pricing model on wireless internet pricing scheme in serving multiple qos network based on quasi-linear utility function ([Open Access](#))

(2017) *ICECOS 2017 - Proceeding of 2017 International Conference on Electrical Engineering and Computer Science: Sustaining the Cultural Heritage Toward the Smart Environment for Better Future*, art. no. 8167163, pp. 38-43. Cited 6 times.

ISBN: 978-147997675-1

doi: 10.1109/ICECOS.2017.8167163

[View at Publisher](#)

- 15 Hutchinson, E.
(2011) *Economics*. Cited 18 times.

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