

Mongolia Internet Exchange Hits a New Plateau

Mongolia's Internet Service Provider (ISP) community hit a new plateau on 9 October 2002. In one day more than a terabyte of data was passed among the ISPs within Ulaanbaatar. The center of this achievement is the Mongolia Internet Exchange, commonly known as the "MIX." The MIX is a collaborative agreement among all the Mongolian ISPs to transfer Internet data that originates and terminates within Mongolia locally. The alternative for ISPs is to transfer data between networks at an international location, as most ISPs connect to the global Internet at a physical location outside of Mongolia.

Why is the MIX Important?

The MIX went into service in May 2001. Since that time, the sophistication of Mongolia's Internet community has produced an environment where Internet is not just used to connect Mongolians to international Internet resources and web pages, rather it is now supporting daily business, academic, and government communications and activities. The more Internet is diffused into the routine activities of an organization, the more it will require high performance communications and access to the trading or professional communities within Mongolia. The MIX provides the interchange of data among Mongolia's Internet networks.

Benefits to the Mongolian community – aside from data transfer performance¹ – include freedom for customers to choose their ISP based on competitive pricing, service levels, and individual preference, without regard to the potential impact of poor interconnectivity within the Mongolian community. This also enables business and organizations to create new business models based on global trends for introducing information technology (IT) into business operations.

Business-to-business relationships, business-to-consumer, and electronic government automation strongly depend on the ability of a company or organization to integrate activities with the activities of other trading or professional communities. The MIX solves Mongolia's technical interconnection problems, freeing IT and business managers to focus their efforts and resources on growing business or professional capacity, rather than on the requirement to physically connect their IT systems with other in the community.

In the future, as online gaming, streaming media (entertainment), and other interactive communications-based applications continue to shape the lives of even home and the consumer community, our MIX will ensure that at least within Mongolia there will not be any data transfer "bottlenecks" among Mongolian Internet networks.

Growth of the MIX

¹ Transferring data using international links requires approximately 120 times the amount of delay when connecting locally <1250ms –vs- 10 ms>

There are very few industries able to show a monthly growth rate of 29%. However the MIX has been consistently growing at the rate shown in Figure 1. According to the chart below there was a dip in growth during the summer months. That is due primarily due to serious damage caused to Mongolia's academic network, Erdemnet, during an early summer electrical storm. The network was finally repaired in September, and growth shot right back up to a high rate. Actual growth up to the 12th of October was an astonishing 83% over September.

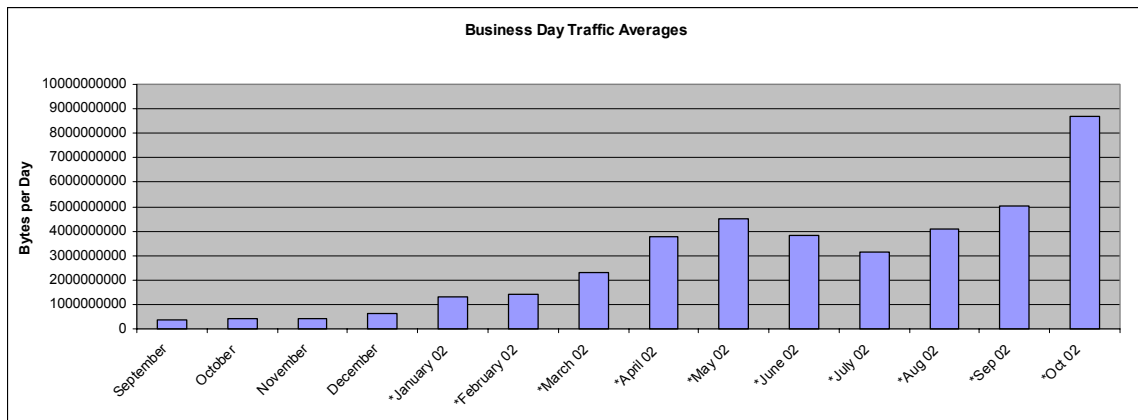


Figure 1. Business Day Mongolia Data Transfer Averages

This is a very strong message that not only is the Internet business growing, but also Mongolian producers of content (Internet based data resources) are growing in volume and sophistication. A key indicator in Mongolia's acceptance of Internet-based communications, these figures also indicate rapid growth potential in online business relationships over the next several years.

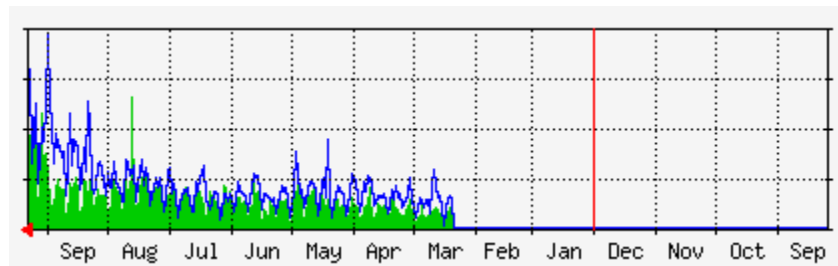


Figure 2. Sample ISP Traffic Growth Trends Since Mar 2002

Figure 2 shows the growth trends of one Mongolian ISP since March 2002. In a simple explanation, all the graphs in Figure 1 and 2 indicate data transfer traffic that will stay in Mongolia, and not use expensive international communications links, such as satellite or fiber optics.

As of October 2002, we estimate a monthly savings of nearly \$15,000 in international traffic due to routing of Mongolia's ISPs through the MIX. That is \$15,000 that is

reapplied to international communications, further adding to the performance and utility of Mongolia's Internet.

Next Steps with the MIX

It is clear the Mongolia Internet Exchange plays an important role in the developing online infrastructure of Mongolia. As the academic community continues to prepare graduates with knowledge needed to contribute and compete in a global information economy, the need for more powerful domestic (and international) communications tools will continue to grow. Mongolia's ISP community and the MIX will ensure IT managers in commercial, government, consumer, and academic organizations will be able to concentrate their efforts on developing applications to communicate inside and outside of their organizations. Mongolian IT managers will have the confidence the commercial communications industry will exceed all their requirements for connecting business applications and business processes together – and leave the dynamics of communication to the ISPs and telecom companies.

Currently the MIX is using about 1% of its total technical capacity. However, with a monthly traffic growth rate of 29%, the MIX fully understands that future growth must be planned now. MIX management will ensure the technical equipment continues to grow and scale to meet that explosive growth rate.

Figure 3 shows the relationship of the MIX with the ISP and global internet communities.

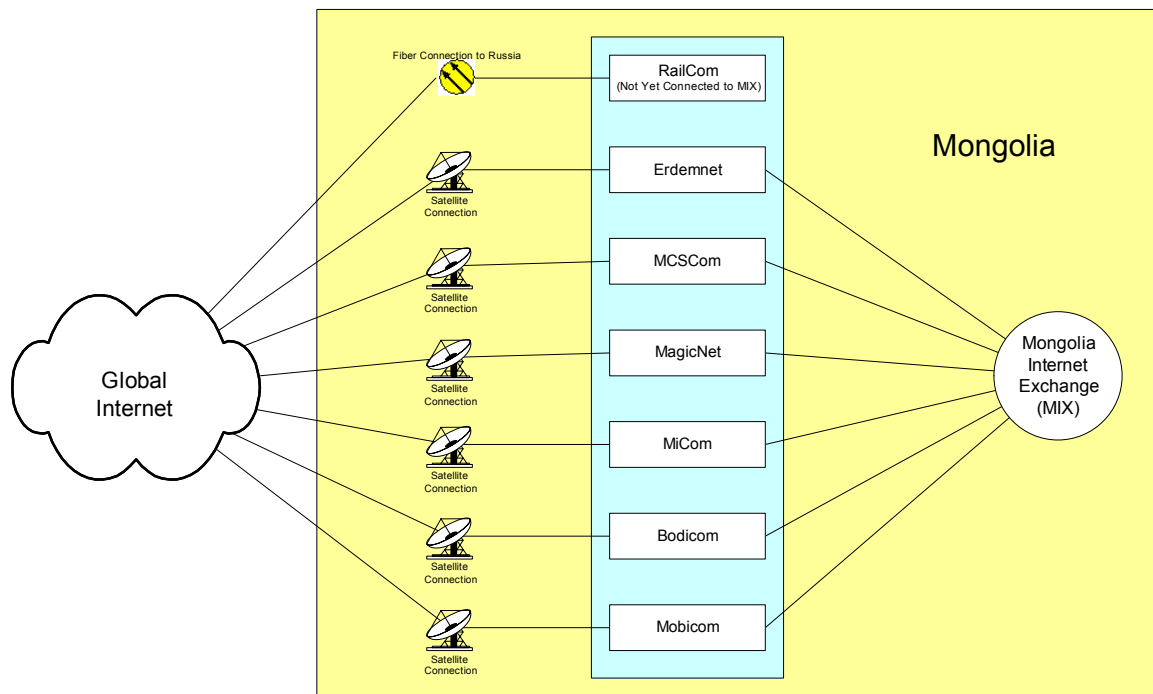


Figure 3. High level View of MIX Relationships

Cooperation among Mongolia's ISP community is very strong, with clear commitment within the industry to continue not only growing the Internet industry, but also striving to meet the needs of Mongolia's user community. The MIX is a clear sign that users will receive the top priority in all future planning.

Congratulations to the Mongolia Internet community on your growth, and congratulations to the professionals at Infocon managing this vital link in Mongolia's communications infrastructure.

John Savageau
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