

Consultation on: Experiences with leased lines to China – January 2010

1 THE QUESTION

One of our members would like to implement **a leased line to their site in China**. They intend to run mainly Citrix over this connection. They are currently using an Internet VPN, but it is very unstable.

If you have experience with a leased line to China, they would like to learn from you:

- Did/do you face any problems?
- Would you advise WAN optimisation on this line?
- Can the BELTUG member contact you?

2 ANSWERS FROM THE BELTUG MEMBERS - MAIN CONCLUSIONS

- Leased lines are expensive but they run stably/reliably, whereas VPNs do not.
- VPNs over public Internet are slow (due to content filtering) and unstable.
- In particular, the local tail has to be a leased line.
- On a 2 Mbps leased line, the effective throughput remains below 700 kbps.
- WAN optimisation is OK, but it is best to use the built-in acceleration from Citrix first.

3 SOME DETAILED REMARKS/CONCLUSIONS FROM OUR MEMBERS WITH RELEVANT EXPERIENCE

- Leased lines are expensive.

Unreliable VPN ? However, once recognized as a “trusted party”, the public authority may perform a few surveys on site. Afterwards they will use another “profile” on the VPN, allowing the response time to become below 300 msec and ... to get nearly no packet loss ! Unfortunately our member ordered meanwhile already the LL....

- Installing reliable *routers* can improve the stability a lot.
- Four years experience with 2 Mbps to China and the local tails over a VPN (to share the costs), but no WAN optimisation.

- For China, Indonesia or India, the remarks are comparable:
 - VPNs over the public Internet are slow, because these countries apply content filtering (prohibited URLs, topics, etc.).
 - Timeouts are frequent, therefore... the solutions are unreliable.
 - For very critical applications, we installed one path over a leased line and the alternate path via a VPN over the public Internet.
- Leased lines in China are run without any particular problems (with a SAP application). If WAN optimisation is in the picture, do a serious traffic analysis first!
- Leased lines are stable, but VPNs are not.
- No particular problems for leased lines to China, but it depends on the location in China. WAN optimisation controllers will improve the results.
- Pay attention to the administration: there is a lot of paperwork to do for leased lines.
 - On a 2 Mbps leased line, remember that the resulting throughput is only 700 kbps, due to the 400 msec delay. That's just the way it is!
 - WAN optimisation should always be applied, but in conjunction with Citrix: there are acceleration solutions specific to Citrix Riverbed.
- VPN solutions in China are slow by definition, since government firewalls check sites and content. Specify that you need an *end-to-end* leased line, since you don't want to tap into the local tails via a VPN over the public Internet. Use the built-in Citrix optimisation tools; they will give more help than you can expect from WAN optimisation controllers.
- We have MPLS and two sites in China with the local loop in ADSL: it is not ok. Too slow and not stable. We wanted to improve via WAN optimisation, but now we are comparing offers from different providers with a MPLS + local loop in China over leased lines.
- A specific proposal with Explore + Riverbed/Juniper or Explore + Ipanema if the main data centre is in Belgium. Similar cases already exist.