Dear ToN Editors and Reviewers:

It is our pleasure to submit the paper titled “BDS+: A Centralized Near-Optimal Network System for Inter-Datacenter Data Replication” to IEEE/ACM ToN.

A subset of this paper appears in ACM Eurosys 2018:

<http://yuchaozhang.weebly.com/uploads/2/6/9/7/26975416/5-camera_ready.pdf>

**[Main differences]** Compared to the conference version titled BDS, this journal submission is an advanced version which has the following new contents.

First, we find that existing solutions (including BDS) often work under the assumption of static network (i.e., the available bandwidth does not change), while in reality, the data replication service is mixed deployed with online services, whose occupied bandwidth is time-varying. So in the motivation part (*Section II*), we show the dynamic bandwidth usage of online traffic (from the trace of Baidu Company) together with the limitations of the existing solutions.

Second, in the system design part (*Section III*), we present the dynamic bandwidth separation scheme, which is the improvement of BDS+ over BDS. Then we add a new *section V* to describe the dynamic algorithm in detail, which is a customized combination of an exponentially weighted moving average control scheme and a change point detection algorithm.

Third, in the implementation part (*Section VI*), we describe how we implement the proposed BDS+ by integrating the dynamic bandwidth separation to the origin BDS.

Finally, in the evaluation part (*Section VII*), we add a new subsection VII-C to evaluate the benefit brought by the dynamic bandwidth separation.

We sincerely thank the ToN editors and reviewers for reviewing this paper.

Best Regards,

BDS+ authors