



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

June 10, 2011

Via E-mail

Joseph Slattery
Chief Financial Officer
TranS1 Inc.
301 Government Center Drive
Wilmington, North Carolina 28403

**Re: TranS1 Inc.
Registration Statement on Form S-3
Filed May 16, 2011
File No. 333-174255**

Dear Mr. Slattery:

We have limited our review of your registration statement to those issues we have addressed in our comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. Where you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Fee Table

1. Please tell us why the units are not registered for sale. We note your disclosure on page 17. Please ensure that each security that you describe as being offered is identified in the fee table and addressed in exhibit 5.1.
2. Refer to the last sentence of footnote 1. Except as permitted by Rule 416, securities issued upon conversion or in exchange for the securities in the fee table must also be included in the fee table – they may not be in addition to the securities in the fee table. Please revise to remove the implication to the contrary.

Prospectus Cover Page

3. If you are relying on General Instruction I.B.6 to qualify to use Form S-3, please provide the disclosure required by Instruction 7 to that General Instruction. Otherwise, please provide us your complete analysis demonstrating your eligibility to use Form S-3.

Incorporation of Certain Information by Reference, page 19

4. Please note that Item 12(a)(2) of Form S-3 requires you to incorporate by reference specifically all reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act *since the end of the fiscal year* covered by the Form 10-K that you incorporate by reference. Please tell us why you have not incorporated by reference into this registration statement the Form 8-Ks that you filed on January 4, 2011 and February 28, 2011. Also, please update this section.

Exhibit 5.1

5. Please tell us why you believe that filing an opinion that addresses only the General Corporation Law of the State of Delaware satisfies your obligations under Regulation S-K Item 601(b)(5) given the reference to New York in section 10.10 of exhibit 4.1.
6. Please confirm that, in connection with each takedown from this shelf registration statement, you will file an opinion that does not contain assumptions, conditions and exclusions like those in the current opinion

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and

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- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Please contact Tom Jones at (202) 551-3602 or me at (202) 551-3617 with any questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso
Branch Chief

cc (via e-mail): Bruce Feuchter