

Large Scale National Diagnostic Assessment in Italy: A Case Study

Patrick Plichart – patrick@taotesting.com
Open Assessment Technologies

The context

Early 2018, 4.4 Million online tests were delivered in Italy to grade 8 and 10 (1.18 Million kids) in Italian, Math and English using the open source solution, TAO.

This biggest leap in going digital in Europe aimed at better steering the Italian education system.

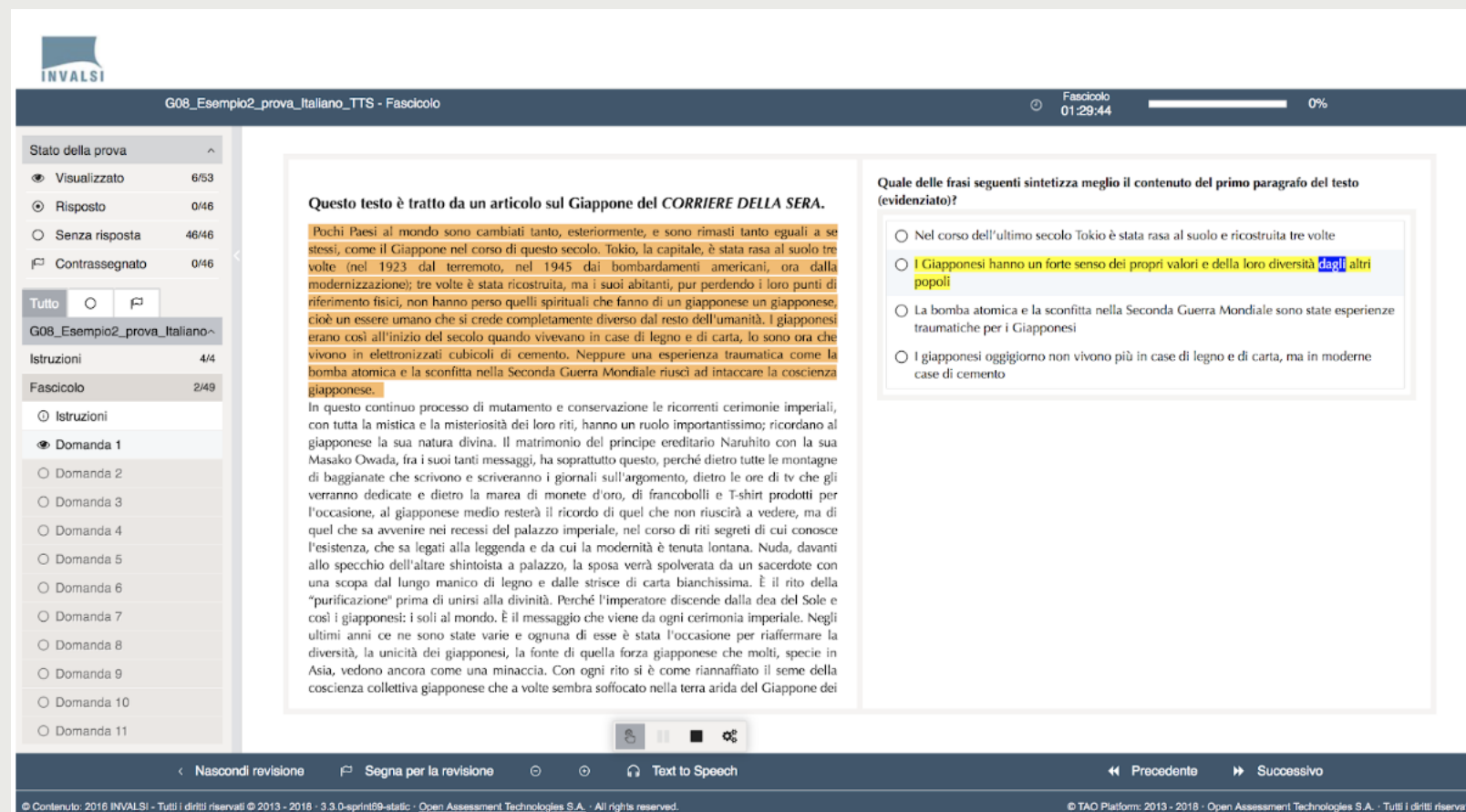
1.8 million tests / 2 weeks

This operation implied key ingredients building the foundations for the e-assessment future and was enabled by a cross-border collaboration of ministries leaning on each other and leveraging the latest open-source developments.

Challenge #2

Accessibility

Accessibility to education is a second ingredient for future e-assessments. A **Read-Aloud functionality** highlighting text to accommodate visual impairments was implemented.



The Read Aloud Functionality

This cross-border collaboration is also a case study for how national education ministries can lean on each other - and learn from each other - to leverage the latest developments in **open source** assessment solutions, to **cut cost** in pursuit of their mission and **sharing best practices** for connectivity, scalability, accommodation and feedbacks from previous operations from their respective countries.

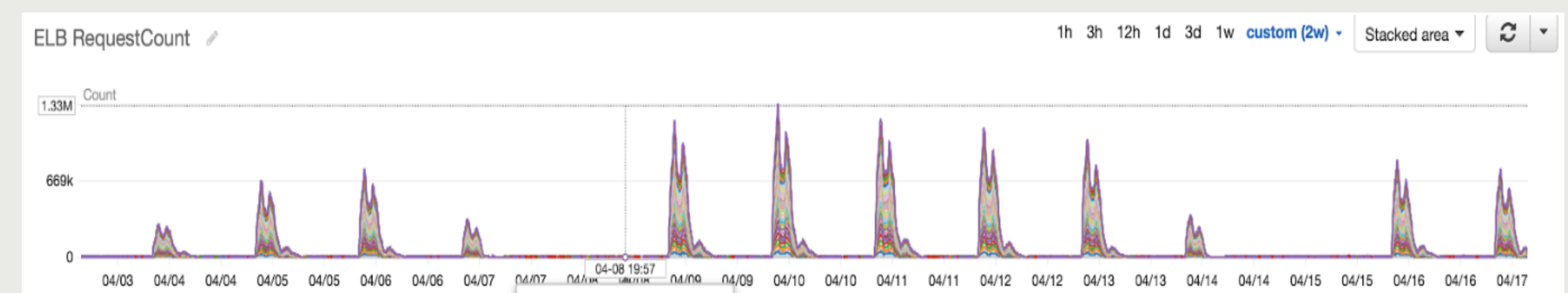
Challenge #1

Scalability & Availability

Availability and Scalability are amongst the biggest challenges. The infrastructure needs to build-in the redundancy to ensure a smooth experience. The operation was scaled to support 200k concurrent users.

An average concurrency of 50k users (80k peaks) was observed.

Various attacks (DDOS, BruteForce) were successfully thwarted.

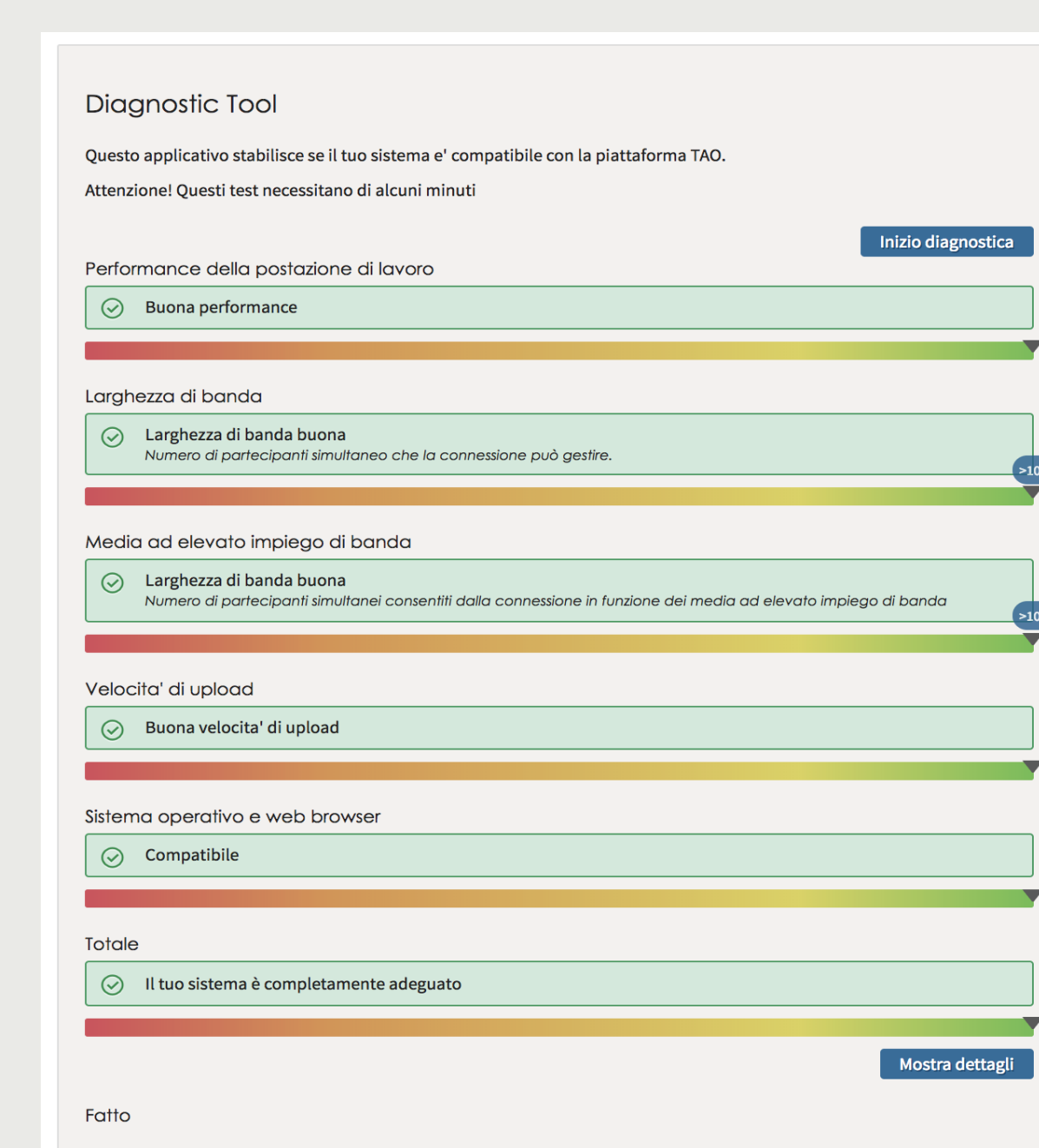


1.3 million requests peak within a minute.

Challenge #3

Schools Connectivity

A third challenge is the schools connectivity. A **diagnostic tool** was run from all schools across the country to address local infrastructure requirements.



Diagnostic Tool