Client:

Our client is the global leader in digital marketing and digital media solutions. Their tools and services enable customers to create groundbreaking digital content, deploy it across media and devices, measure and optimize it over time, and achieve greater business success. They help customers make, manage, measure and monetize their digital content across every channel and screen.

Challenges:

The client has been providing products to customers through different modes i.e. through client designated shops in various countries, through online portals like Amazon or eBay and through direct download from their website. Lately, client has been working on creating a digital hub that lets users' download and install every client application; access online services for file sharing, collaboration, and publishing; and benefit from new applications and features as soon as they're released — giving users the freedom to create anything they imagine. Before getting this digital hub live, client faced various challenges and approached us with detailed situations:

- Digital hub will be accessible to limited regions; users in restricted regions will not be able to access the application through the digital hub; this includes localized versions as well and associated links in the digital hub.
- All application links should be functional and when user clicks on them downloads should be prompted
- All localized applications should be downloaded in their particular locales
- Bandwidth check for tests to measure how much time it takes users from different regions and with different bandwidth speeds, to completely download all applications
- Users can purchase application subscriptions without any hassles
- Users would be given trial periods to experience the application before subscription purchase
- Subscription modules should work perfectly, where users should be informed about their subscription expiry in advance
- Digital hub should be compatible with all supported browsers and operating systems
- Basic functionality of all applications should be verified and certified
- Time on hand was also minimal to accomplish the above mentioned tasks

Testing Environment:

OS: Win7, Win XP and MAC 10.7.3, Mac 10.6.8 (plus sanity on different platforms)

> **Browse**r: Safari on MAC, Firefox and IE9 on Windows (plus sanity on different browsers)

Supported Locales:

Cloud portal supported locales: English, English International, French, French Canadian, German, Japanese, Italian, Spanish, Spanish Latin America, Dutch and Swedish locales
Supported locales: French, Japanese, German, Spanish, Brazilian Portuguese, LAS, NAS, Swedish, Finnish, Danish, Korean, Simplified Chinese, Traditional Chinese, Czech, Polish and Hungary locales
Non supported locales: Polish, Russian, Turkish, Ukrainian and MENA locales

The QA InfoTech Solution:

Apart from being a localization and internationalization testing provider, QA InfoTech's strength lies in functional testing; with this combination of functional and globalization testing, QA InfoTech was a natural choice for the client to outsource their complete testing effort for Creative Cloud Subscription Management. We proposed a smarter approach as a solution to overcome these challenges and ensure a high quality project release. The approach was a mix of functional and localization testing.

With functional testing, we ensured requirements have been fulfilled and all functionalities worked as desired. With localization functional testing, we ensured that functionality of the application was working correctly on all supported locales. The plan was to create a robust test optimization matrix in such a way that we can test the application on all locales and overcome all challenges faced by the client ahead of delivery time and help the client reduce costs

Approach:

- Proper test planning to achieve deadlines
- Leverage a test optimization coverage matrix
- Use of software tools to enhance test execution
- Ramp-up skilled resources if needed
- Robust defect management process

Having vast experience in this field, a step by step plan was laid out to meet the deadlines and ensure a quality release, taking into consideration all the challenges pointed out by the client. This approach helped us and the client to review progress step by step paving way for a smoother release.

Test Optimization Matrix: We created a test optimization matrix plan in such a way that coverage was done for almost all locales and saving a lot of manual effort and reducing cost for the client. All locales, browsers and OSs were divided in a way that all scenarios are covered across locales and platforms.

Use of Software tools: We used different software tools to measure and control bandwidth and shared a consolidated report with the client. This included details of network speed and time it would take to

complete download of all applications through creative cloud management. This really helped the client understand the minimum bandwidth required to download their applications through creative cloud and later added such details in the release notes.

Infrastructure and Man-Power: Testing labs at QA InfoTech is equipped with all types of hardware and software which makes the software testing process easy. We easily simulate almost all native user actions and experiences on localized products. We have a list of localized keyboards and input devices, localized operating systems and hardware, meeting the requirements.

We have skilled localization functional testers who have worked on various localization projects and can easily understand project requirements and can be productive from day one.

Enhance Bug Reports: We provided various valuable inputs on the existing bug tracking methods and helped the client evolve their existing bug life cycle. These enhancements helped the client generate various bug related metrics.

In-depth Functional Testing: We performed functional testing both at front and back ends to uncover various bugs related to the subscription module as well as bugs due to fluctuation in network bandwidth. Since subscription module was the critical piece in this implementation, testing it thoroughly from angles such as usage and charges, access, trials and purchases, expiry period etc. were very important and our optimization matrix helped us achieve maximum coverage in the minimum time that was available.

Client Benefits:

QA InfoTech went deep down to solve all challenges faced by client while implementing the creative cloud subscription management. We ensured that all localized products worked fine in their native locales and user experience met the requirements.

We uncovered major bugs from the very first sprint which strengthened the client's trust in us. To achieve the tight deadlines, we ramped-up skilled resourced whenever needed in a testing cycle, bringing in resource flexibility.

Value Additions:

- Followed a well defined process throughout the testing cycle
- A robust process for Internationalization and Globalization testing
- Smarter test optimization approach to reduce human efforts, cost and project time
- Finally, a high quality project release in multiple locales