

# Fields Associates

## Litigation Consultants

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Over the past few years, cloud storage has grown considerably. What was once an emerging technology is now used by thousands of companies and billions of individuals worldwide. For the digital forensist, the proliferation of cloud storage poses a series of problems both technical and legal.

The first, and undeniably biggest, challenge stems from the fact that data that is stored in the cloud is kept in servers in vast data centres. These centres are, of course, owned by large companies. As a result, should data stored there be required for analysis, then the permission of the owning company must be sought. Due to privacy laws, and subject to the provisions of any existing contract, it may be necessary for the relevant parties to obtain a court order before the hosting company will release the data in question.



Equally problematic is the fact that several thousand people could be using the same data centre at any given time meaning that deleted data is significantly more likely to become overwritten and inaccessible.

Whereas the standard means of deleting data will merely remove links to the files in question,



## Forensic & Cloud Storage

the data will only be permanently deleted following it having been overwritten with new data. Whilst this does pose a problem when the drive in question is used by one or several individuals, it poses a far bigger problem when thousands upon thousands of individuals use the drive; and it is precisely this situation that applies when information is stored in data centres.

The data that is stored in data centres is, just like the data that you have stored at home or work, kept on a drive. When a file that is stored in this location is remotely deleted by a user, the same situation as that which is described above still applies – i.e. the data is not removed from the drive but the space upon which it is stored is marked as an area within which other data can be retained. As a large number of people are likely to be uploading data to the same place – and therefore the same drive – within which this file was stored previously, it is highly likely that the file in question will be overwritten.

Another problem is that data that is stored in centres is that, in order to best prioritise their resources, administrators will ensure that files are regularly moving from one drive to another. This fluid movement of data can make it extremely difficult to locate a particular file. Indeed, with literally billions of Gigabytes being stored in data centres, the old adage 'searching for a needle in a haystack' would not be an inappropriate summation for such a scenario.