



EXPERT OPINION:

# A high-flying journey of business transformation

The convergence of technological advances, consumer demand and changing market conditions in any industry usually results in challenges. Robert Morrison argues that the challenges CSPs face aren't so different to those in other sectors.



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The global airline industry is an example of an industry experiencing massive growth that is highly reliant on efficient support systems. According to the IATA, the International Air Transport Association, passenger numbers grew by more than 55% in the last ten years, whilst the average revenue per passenger grew by a more pedestrian 21%. Like air travel, market adoption of mobile data has taken off – consumers can't seem to get enough of digital content, anywhere and at any time, and service providers are struggling to keep up with managing the increasing volumes. With data traffic forecasted to increase 26-fold between 2010 and 2015, this problem will only worsen. Communications Service Providers' (CSPs) issues with usage record management have far-reaching impacts: increased exposure to fraud, revenue leakage and challenges in providing consumers with accurate and up-to-the-minute views of their own activity.

Like airlines, CSPs have competing and seemingly contradictory support systems requirements as they struggle to keep pace: they need to improve revenue while minimising costs. CSPs' quest to grow revenue has generated a cycle of investment in real-time charging and policy solutions. On the other hand, the need to lower costs is forcing a review of installed systems that manage end-to-end data record processing, and in turn an assessment of current mediation capabilities for charging data.

### Volume shock impacts revenue assurance

Unforeseen events can have devastating impacts on profitability: a 2008 spike in fuel costs of 40% resulted in an estimated US\$ 16bn loss for the world's airline industry. While IT expenses are usually more

predictable than the cost of oil, CSPs should not underestimate the impact that increased traffic has on data mediation. The mediation system is a fundamental cornerstone for revenue assurance, and it is imperative that mediation is able to handle rapidly growing traffic loads in a cost-effective, accurate and timely manner. If mediation cannot keep pace, increasing data loads will result in "volume shock" – measurable bottlenecks in the first, critical step to reliably managing a CSP's revenue stream.

### Next step: LTE

All industries react to inflection points in demand with a wave of technological investment. The airline industry has developed new, larger and more energy efficient planes, or SuperJumbos, to reduce the cost per passenger carried. CSPs are looking to new, high-speed Long Term Evolution (LTE) networks to deliver increased data capacity at lower costs. And, as more capacity becomes available, consumers and suppliers of content will rush to fill it. Volume shock will become a greater risk: one of CSG International's customers estimates that event volumes will double in the five years post-LTE launch. Revenue per unit will not double even in the most optimistic forecasts, so CSPs must ensure that the per-unit cost of processing each transaction is not only controlled but reduced.

### Becoming a low-cost airline

Some of the most innovative airlines have changed their business model through an intense scrutiny of fixed and variable costs such as those associated with fuel, ticketing and cabin configuration. CSPs, like their airline counterparts, must evaluate three primary aspects of the total cost of mediation: application software fees, platform ►



expenditures and staffing costs. Each of these costs is driven by different aspects of the CSP's mediation system design. First, software and support costs are governed by vendor pricing policies; some vendors charge additional license fees for every new network interface. Today's SuperJumbo mediation systems are flexible enough to accommodate evolving networks in a cost-effective manner.

Next, platform costs are based upon the cost of servers, storage, database licenses, power, uninterruptable power supply, air conditioning and rack space. Here, the largest factor determining total cost of ownership is application performance. SuperJumbo mediation systems minimise the hardware system resources needed to process growing event volumes in the same time window, reducing the numbers of servers, processors, memory, rack space, power consumption, cooling costs and consequently carbon emissions.

Finally, staffing costs are driven by system ease-of-use, both for daily operation and ongoing business evolution. While certain mediation systems require specialised database analytics support to maintain and tune the system, SuperJumbo applications have fewer platform dependencies and can be deployed on commodity hardware, which reduces the burden on hardware specialists and administrators.

#### Out with the checked baggage fees

The combination of data traffic growth and the corresponding growth of usage records, coupled with efficient and low-cost mediation capabilities, makes it possible for the CSP to charge and bill at a very granular level for data consumption. This is the route that the airlines have taken in recent years, decoupling from the basic ticket price those charges for the privilege of booking with an agent, checking


bags, having peanuts or even the use of a pillow. CSPs are advised to avoid the customer service pitfalls that come with this approach. Modern offline charging capabilities are a mandatory component of a mediation system to assemble charging records representing a service that the customer values.

#### An on-time departure

Just as the airlines seek SuperJumbo alternatives to older and less efficient aircraft, CSPs are discovering that incumbent mediation systems cannot handle their forecasted data growth. Many CSPs are replacing legacy systems with SuperJumbo mediation systems that revolutionise the economics of supporting rising data volumes, and tomorrow's Offline Charging requirements for all IP networks.

CSPs considering SuperJumbo mediation partners should ask:

- What data and IP volumes are the provider's largest mediation implementations supporting? What are the platform costs for these deployments in terms of hardware, third party products and energy?
- What experience does the provider have with next generation network equipment for IP services? In mobile, what experience do they have supporting LTE in a production environment?
- How many implementations support high volumes with a distributed architecture for horizontal scalability? What experience does the provider have taking advantage of commodity?

Although the wide deployment of LTE services is not expected for some time, volume shock is already here. An investment now in a SuperJumbo mediation system will ensure cost effective capacity for consumer demand of the future. Safe travels! 

Many CSPs are replacing legacy systems with SuperJumbo mediation systems that revolutionise the economics of supporting rising data volumes

#### TOTAL SERVICE MEDIATION LOWERS TCO

CSG International's Total Service Mediation has been proven to reduce mediation costs for high volume data services. For operators with mediation systems reaching capacity because of data growth, CSG International offers a complete offline charging solution, with low total cost of ownership. In reference deployments CSG International customers have lowered total mediation costs by a factor of ten.