



NCL Technologies Ltd

Provato White-paper

Mobile data is experiencing incredible growth worldwide. High growth in mobile messaging, increasing numbers of subscribers, developments in media rich content (multimedia messaging, Push to Talk / Two way radio over cellular networks, downloadable tunes, video streaming and conferencing) and higher bandwidth (3G) are all together putting pressure and more demands on existing IT infrastructure within mobile network operators and application and content suppliers thereto.

More traffic means more revenue, and business are beginning to realise how much revenues – both existing and potential growth - depend on these systems.

Mobile operators and their suppliers are looking for higher quality systems to support this growth and replace ad-hoc legacy systems, and to make it easier and quicker for content suppliers and application developers to create reliable applications and value added services quickly.

NCL's range of messaging products helps meet these requirements.



Performance and Scalability – “I need more power!”

To develop a platform that caters for growth with minimal or no interruption of service means that the platform has to be scalable, not just from a technological point of view but from a business point of view.

A service, or collection thereof, that may have a throughput of 200 message per second in the first year (equating to revenues of about €15,000 per hour) may well have a throughput of 400 messages per second (€30,000 per hour) by the following year thereafter.

NCL's Provato achieves scalability because:

- Provato is built on J2EE technology – application servers such as BEA - an industry standard within mobile network operators. This allows both Provato and applications deployed on Provato to scale and to add scale dynamically in production environments
- Provato incorporates proprietary cluster technology which allows messaging data and processing to be shared across multiple machines, thus allowing Provato to scale both vertically (adding CPUs) and horizontally (adding networked machines)
- Provato is licensed based on messaging throughput, allowing business to invest minimally and license new throughput tiers as messaging increases.



High Availability - “Who’s going to take over when I’m gone?”

When a mobile operator deploys a value added messaging service that achieves high volumes of traffic, downtime means lost revenues.

Downtime can be a result of:

- An external component in the mobile network fails – such as the firewall, router, SMSC connection
- A component in the 3rd party VAS/Content application software fails
- A component in NCL Provato software or hardware fails

NCL’s Provato achieves high-availability and minimises lost revenues:

- Connections with mobile network resources are well managed. If a network connection drops, it is re-established. If they cannot be re-established the corresponding traffic is re-routed. If it cannot be re-routed it, traffic is buffered until the connection is re-established. So no message requests/responses revenues are lost.
- If NCL Provato software fails on a computer, or the hardware running it fails, then remaining computer/hardware takes over the tasks and connections, thereby keeping the revenue generating service alive
- Through traffic throughput and queue analysis, Provato can alert network management if external VAS/content application fails. This provides a valuable service to 3rd party application and content suppliers and protects the revenues stream from each 3rd party.



Ease of Integration – “How do I plug this in?”

Ease of integration means minimising the barriers to entry into the mobile operators “walled garden”. Typically the barriers to entry can be the IT department within the mobile operator.

- IT departments within mobile operators are under-resourced
- There is a priority system specifying when projects are deployed (can be a backlog of a year)
- If integration of any project looks like it will take too much IT resources then it joins the priority queue

Provato is based on technology standards that provide ease of integration, specifically Web Services. This allows IT to integrate Provato with applications and value added services quickly.

Integrating quickly means minimising the involvement of the IT department, and this combined with a tiered licensing model means that Provato can go in “under the radar” as business as usual.



Ease of use – “Here’s the message, take care of the rest”

When developing a mobile messaging application it is important to be able to focus on the business logic of the application rather than getting bogged down in the development of a mobile message layer.

A mobile message layer may encompass:

- numerous and complex wire protocols
- message management and routing
- scheduling and retrying
- connection management
- different vendor databases and app servers
- disparate technologies (SMS/MMS/EMS/Push etc.)

Provato hides all these complexities from the application layer, with its single easy to use API. Once the message layer is configured through the user-friendly console, your application is ready to get the message across.



Summary

Since 1998, NCL Technologies have been delivering messaging solutions that

- ✓ Scale, perform and are reliable
- ✓ Are telco grade quality
- ✓ Are licensed so as to develop business growth
- ✓ Integrate quickly
- ✓ Are delivered direct to mobile network operators
- ✓ Are delivered indirectly to mobile network operators via imbedded ISV/OEM solutions
- ✓ Are used to mobile enable enterprise applications
- ✓ Hide all complex issues around mobile messaging from the wireless application developers, content providers, aggregators and mobile operators

Provato: Gets the message across.