ENaTIS system: Stable and performs well

transport
Department:
Transport
REPUBLIC OF SOUTH AFRICA

Award of Contract

The eNaTIS contract was awarded to Masiye Phambili (Tasima) in 2001 by the State Tender Board. The award was challenged in the High Court by an unsuccessful bidder and dismissed with cost . The project was delayed due to this court challenge and kicked off in June 2002.

Why replace NaTIS with eNaTIS?

On the right hand side is a diagrammatical depiction of the process of moving from NaTIS to eNaTIS in a timeline. The old NaTIS system was introduced 14 years ago on distributed architecture. The technology was nearing end of life and needed to be replaced. Also, introduction of new features required a central architecture, such as Internet and ATM transactions.

The changing environment

The scope of the project was increased tremendously. The NaTIS brought out 9 more software releases which needed to be incorporated into eNaTIS, plus new functionality was required, such as a national booking system. The vehicle population grew by 53%, users grew by 50% to 3000 and the sites by 90% to 1270 sites. The required database capacity more than doubled. Because of this the eNaTIS milestone dates had to be rescheduled, resulting in a planned changeover on 12 April 2007 which was around the Easter holiday period.

Migration process

A total of 4.6 billion data records were migrated into the eNaTIS from the NaTIS. 3000 work stations and 2000 printers were deployed at 1270 sites. More than 4 million lines of source code were developed and 100,000 man hours were spent on testing. Dry runs and 12 data migration exercises were conducted prior to changeover that took place from 5 to 11 April.

System performance

Whereas the old NaTIS system performed on average 287000 transactions a day, the new system performed an average 326000 transactions a day - 13,4% more - with 93% uptime from April 13 to May 7. Since then (from 8 May) and after the interventions by the department, the new system had performed an average 619000 transactions a day - 115% more - with 100% uptime (see graph on right hand side).

Data centre interventions done
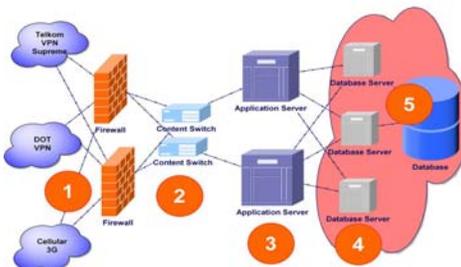
An additional database server was added (4) and database optimisation took place (5) in the data centre depicted on the left.
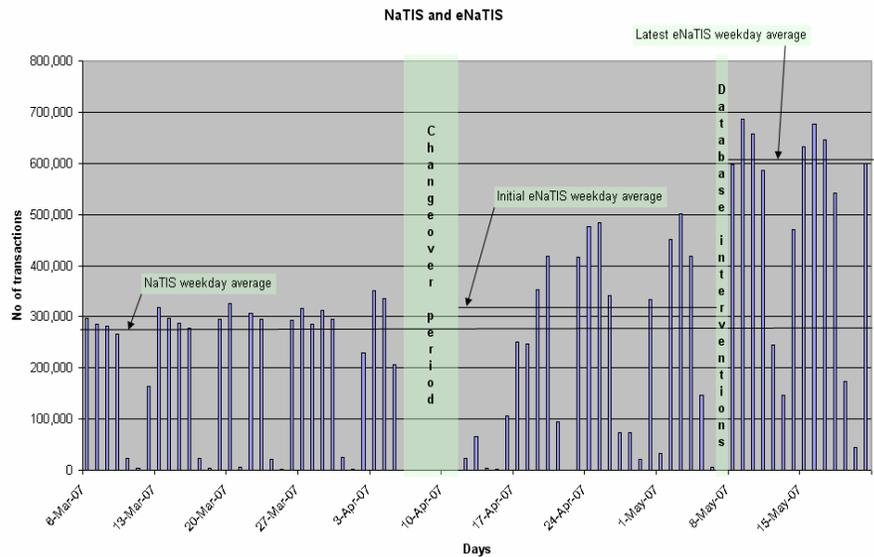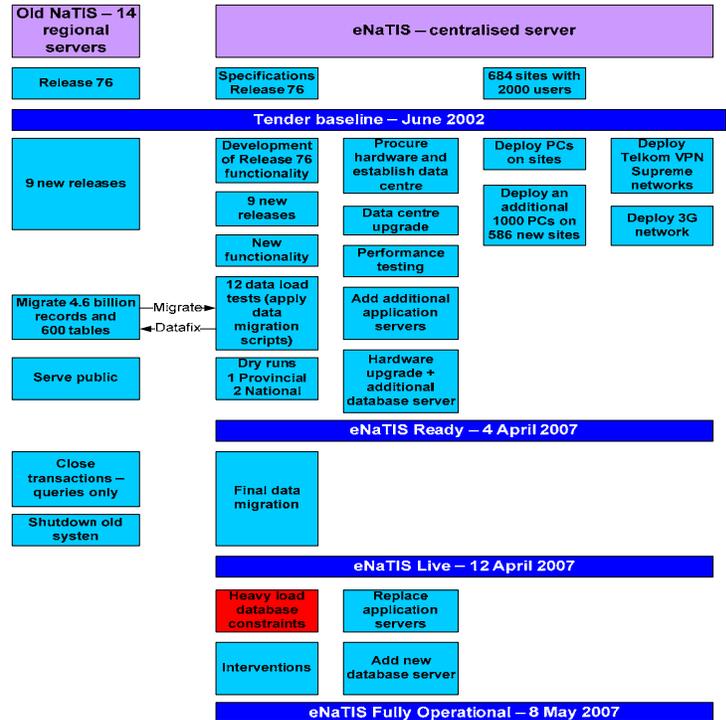
Further information

The Department of Transport will ensure that updated information is available on the eNaTIS website (**www.enatis.com**). The public is advised to consult this website when they plan a visit to a service centre.

www.enatis.com

Timeline diagram:

Old NaTIS – 14 regional servers | eNaTIS – centralised server

Release 76 | Specifications Release 76 | 684 sites with 2000 users

Tender baseline – June 2002

9 new releases | Development of Release 76 functionality | Procure hardware and establish data centre | Deploy PCs on sites | Deploy Telkom VPN Supreme networks

9 new releases | Data centre upgrade | Deploy an additional 1000 PCs on 586 new sites | Deploy 3G network

New functionality | Performance testing

Migrate 4.6 billion records and 600 tables | Migrate / Datafix | 12 data load tests (apply data migration scripts) | Add additional application servers

Serve public | Dry runs 1 Provincial 2 National | Hardware upgrade + additional database server

eNaTIS Ready – 4 April 2007

Close transactions – queries only | Final data migration
Shutdown old system

eNaTIS Live – 12 April 2007

Heavy load database constraints | Replace application servers

Interventions | Add new database server

eNaTIS Fully Operational – 8 May 2007

NaTIS and eNaTIS — No of transactions vs Days graph (8-Mar-07 to 15-May-07), with annotations: Latest eNaTIS weekday average, Changeover Period, Database interventions, Initial eNaTIS weekday average, NaTIS weekday average.

Data centre diagram: Telkom VPN Supreme, DOT VPN, Cellular 3G, Firewall (1, 2), Content Switch, Application Server (3), Database Server (4, 5), Database.