NANC 393

**NPAC Updated Performance Requirements**

**Origination Date :**05/06/2004

**Originator:**Arch Planning Team

**Description:**

**Business Need:**

The Architecture Planning Team has been evaluating performance numbers and performance requirements, based on porting projections published in the NFG.  These projections were used along with available actual volume (top 5 SOA participation percentages, peak/offpeak volume percentages, mix of activates/modifies/disconnects, busy hour/busy day, etc.), to obtain updated performance requirements for the NPAC SMS.

The current FRS performance requirements do not fully account for sustained and peak performance requirements.  This change order will provide NPAC SMS performance requirements to account for sustained, peak, and total bandwidth numbers.

**Final Resolution:**

Func Backwards Compatible:  YES

The FRS performance requirements for the NPAC SMS will be updated based on numbers defined during the APT meetings.  The April 2004 minutes that capture the discussion are included below:

***NPAC Forecasting Group (NFG) Traffic Model:****Total pooling and porting events projected for 2004 is 111 Million.  This is substantially lower.  Changes since the last version:*

* *Changed NFG WNP assumptions for subscriber data based upon CTIA data and analyst estimate.*
* *Changed wireless pooling forecast to 1.2M per month through end of 2004 from 800K based upon actuals from 2003.*
* *Changed churn rate from 50% to 35% per NFG recommendations.*
* *Changed % of churn requiring a port from 80% to 50%, which then ramps up by 10 percent per year (per NFG recommendation).*

***LSMS Throughput Sustained and Peak Requirements Discussion:****With the new Traffic Model assumptions, the projected LSMS throughput requirement reflected during the 4Q04 Busy Hour is now less than or equal to 1 message per second for each region.  However, it would be ill-advised to use 1 per second as the requirement because if all messages in the hour came in the first second, we would abort.  Using the West Coast projected data, which has the highest projection of 3479 messages in the Busy Hour, we would need to support 4 messages per second sustained to clear in 15 minutes to prevent aborting.  This equates to total bandwidth of 156 messages per second (30 LSMSs \* 4.0 messages/second + 30 LSMSs \* 1.2 messages per second (peak of 5.2).  The assumption still is one peak per hour.*

***SOA Throughput Sustained and Peak Requirements Discussion:****Previously, the group determine that the top 5 SOAs represented 67% of the total SOA messaging traffic.  The total bandwidth was calculated and multiplied by 67% to come up with a total bandwidth requirement for the top 5 SOAs.  This was then divided by 5 to derive a possible single SOA interface throughput requirement.  After reviewing this methodology, the group felt that dividing by 5 inappropriately spread the messaging traffic evenly among the top 5 SOAs.  A new methodology was discussed to project the sustained and peak rates for SOA interface throughput.  It was agreed to use the top SOA % participation (40% from the Mid-Atlantic Region), and the top SOA message traffic in the Busy Hour (19,326 from the Northeast Region) and plug this into the 4Q04 Summary spreadsheet for the Northeast Region.  This resulted in a sustained rate projection of 4.3 messages per second (updated to 4.0 mps during the May ’04 meeting).  Next, using 100% participation in the Northeast Region, the total NPAC bandwidth requirement was 10.7 messages per second (updated to 40.0 mps during the May ’04 meeting).  This was also determined to be the projected peak rate if a single SOA were to use 100% of the total NPAC bandwidth in a given period of time.*

 Implemented in FRS 3.3.0a.

**Related Release:**

Implemented in FRS 3.3.0a.

**Status:** Implemented