

# P-A-S-S™ Consulting – 500% scalability improvements to payment gateway to handle 5 fold increase in transaction volume

**Challenge :** Scalability assessment and performance optimization of one of Asia's largest Payment Gateways for a leading bank.

5 fold increase in Payment gateway transaction volumes

## Latest Payment Gateway



Technology stack:  
Weblogic Application Server,  
Oracle Database, Solaris

## Results:

500% IMPROVEMENT  
in PERFORMANCE AND SCALABILITY

6 single points of failure identified.  
Multiple server reboot issue resolved,  
Transaction time and user experience  
significantly improved

The business projections for a large private sector bank indicated a 5 fold increase in the volume of transactions processed by its Payment Gateway (which was already the largest in Asia). The gateway was experiencing ongoing performance degradation issues, so this was a high priority project for the leadership team.

## Avekshaa's Solution :

The Avekshaa team was brought on board to audit the system from the P-A-S-S™ perspective and provide solutions to address current performance issues as well as scale the system for the predicted increase in business transactions. Avekshaa's unique performance modelling platform COMP-A-S-S™ provided an exhaustive review of system vulnerabilities and recommendations for fixing them. A performance benchmarking exercise was conducted to gauge the system capacity. This helped evaluate whether the IT infrastructure could handle the surge in transaction volumes without compromising service levels. Performance modelling and simulation was used to predict the performance at the increased transaction levels.

A thorough architecture review across the stack identified 6 single points of failure. The Oracle database was reviewed at the architecture, query, instance and I/O levels to identify performance improvement prospects. The infrastructure was examined to identify bottlenecks in the CPU, storage and network. The application server performance was analysed to identify optimizations via thread, memory and connection pool management.

## Results :

Overall 500% improvement in performance and scalability. Multiple daily server reboots were eliminated entirely and there were no unplanned reboots in a month. Significant improvements in transaction times and user experience. Performance modelling platform COMP-A-S-S™ generated comprehensive and concrete error-free reports within a couple of hours, which otherwise would have taken 2 months to generate, thus reducing the total project duration by around 100%.