



An Automobile Major Doubles Productivity

Project Challenges

- **Application Performance Constraints** – Slow response times, xPiNC (XPage in Client) performance, server outages during peak usage times
- **User Adoption of Web** – Being the first XPage application, bringing the client users to web was a challenge. Compounded by the challenges of xPiNC performance
- **Application Outages** – The application became unavailable during peak load times. As the application was critical and used by everyone on a daily basis, handling the concurrent user load was a challenge

The Solution

Solution Overview

- Perform Server/OS level checks to ensure the application is hosted in the right environment with the required hardware/software.
- Implement the best practices and approaches that will enable the application to use optimal resources during its execution and give better performance time
- Perform a performance tuning of the application to optimize code, improve code quality, remove redundant code, improve reuse etc.,

Technical

- Perform a check of the current Domino Infrastructure against the recommended hardware/software environment.
- The best performance is achieved in a 64 bit environment and hence the OS and the Domino is upgraded to a 64-bit environment
- The server parameters were set to use maximum available RAM to avoid memory issues, Hence the server RAM capacity was increased and kept at the maximum possible
- In an XPage application, specific application

level properties had to be known to influence application performance, by way of using resources optimally, caching. Storing files in compressed mode and persistence. These parameters were applied at the XPage application level

- Lastly and most importantly, we had to optimize application code.
 - The code was analyzed to check if there are redundancies. As much as possible, values were retrieved once and used in places wherever it was required. XPages scoped variables were effectively used to achieve this.
 - Removed unnecessary code fragments and design elements to save space and memory
 - Ensured the best practices were used in coding and in-efficient code fragments are removed.
 - Reduced the number of views used in the application and avoid unnecessary custom styling, sorting in views
- Implemented Daily/Weekly/Monthly Database and Server Maintenance activities that will keep the server and database healthy
 - Ensured database is compacted and maintained at a healthy stage especially for high volume and high transaction database
 - Ensured server maintenance was scheduled so that web server (Domino http task) can handle load at all times without much degradation

Technology

- Domino server 9.x, XPages
- Dojo, jQuery, HTML, CSS, JavaScript

Value Delivered / Benefits

- High availability of the server as the server had been tuned and upgraded to handle maximum load.
- Improved application performance – Response times improved because of usage of best practices and code optimization.
- Server/Application outages were reduced and the Users were able to use the application even during peak load times

Maarga Doubles Productivity for the largest two wheeler Auto Major in the world!

The Client is the largest manufacturer of two-wheelers in the world. It's mission is to become a global enterprise fulfilling its customers' needs and aspirations for mobility, setting benchmarks in technology, styling and quality so that it converts its customers into its brand advocates. Further the company aims to provide an engaging environment for its people to perform to their true potential and continue its focus on value creation and enduring relationships with its partners. It has 4 manufacturing units in India. Most of the HR processes are run on applications developed using Lotus Notes.



We never thought productivity could be improved, leave alone doubled, by elements that seem as a matter-of-fact not requiring intervention. Maarga has shown that the smallest cog in the wheel is the most important part!

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