

## Itanium power puts massive garage project in perspective.



“The Itanium has opened our eyes to what can be done and in future we will be able to take on much more advanced and intricate projects, knowing that this technology is available.”

Anton Greeff, senior design engineer,  
EPAQ CARE Solutions



EPAQ CARE Solutions thrives on challenging design projects and that is exactly it got when it accepted a contract to design an 11 storey, 470 bay, fully automated parking garage - right down to the last nut and bolt.

Formed in 1994, EPAQ is the South African re-seller for PTC's Pro/Engineer design software and uses this package for its own outsourced design projects. When it was approached by major international car park specialist Spacemaker, designing the new garage didn't seem like a huge project but it turned into one of the world's largest Pro/Engineer CAD models. With over 500,000 components, it is only surpassed by huge projects such as those by the NASA space agency and other massive government-funded organisations.



#### Ram limitations

Because of the pure size of the model which took up 3.7GB just to open, and between 4.7 and 6GB when being worked on, EPAQ soon hit RAM limitations with its 2GB Pentium 3 machines and had to break the project down into 22 sub assemblies. These were divided between six designers, who had to collaborate as best they could to get an overall view.

More power was needed to cope with this graphic and compute intensive environment so EPAQ turned to the HP Itanium-based workstations. Co-developed by HP and Intel, they are rapidly becoming the standard for technical computing, offering exceptional performance for complex computations as well as 64-bit addressing and the flexibility to support HP-UX, Linux and Windows XP.

#### New technology

"We either had to go down the UNIX route, which our infrastructure is not geared up for, or we had to view new technology," said EPAQ senior design engineer, Anton Greeff. "We contacted HP South Africa through the re-seller Intrinsic Technology and they arranged for us to

loan the first Itanium machine ever to come to South Africa. We used this Itanium 1 for a year and that allowed us to finish the project, simplifying everything because for the first time we could have the whole thing on the screen at once. We then also used an Itanium 2 zx6000 for doing the final validation of the completed model.

#### Future potential

"On the Itanium 2 workstation, the assembly opened in just one hour and we were able to spin this massive model right there on screen in real time. Now we can perform top level interference checking and collaborative fly-through design reviews on a level of detail previously unthinkable for a desktop workstation.

"This is certainly the way forward for a lot of high end users. The Itanium has opened our eyes to what can be done and in future we will be able to take on much more advanced and intricate projects, knowing that this technology is available."

## Partner at a glance

company: Intrinsic Technology

headquarter: Cape Town, SA

founded: 1980

telephone: +27 21 430 9000

annual revenues (also in Euros):  
SAR100 million. ≈10.6 million

URL: [www.intrinsitech.com](http://www.intrinsitech.com)

business: Design, implementation  
and support of medium to  
large IT projects

products: Best of breed solutions  
from major vendors

## Customer at a glance

industry sector: CAD and  
design software

name: EPAQ CARE Solutions

headquarters: Centurion, Pretoria

founded: 1994

telephone: +27 12 643 5020

number of employees: 35

URL: [www.epaq.co.za](http://www.epaq.co.za)

## Why HP?

- HP Itanium workstations are becoming the standard for technical computing of this kind.
- PTC's Pro/Engineer 64 bit technology works well with Itanium thanks to co-operation between PTC and HP.
- To provide an Itanium reference site in South Africa, HP was willing to loan a machine.

## Hardware

- HP Workstation zx2000
- HP Workstation zx6000

## Software

- Windows XP 64-bit Edition
- Pro/Engineer design software



## Challenge

- South African CAD expert EPAQ CARE Solutions was asked to design a huge automated parking garage.
- With 500,000 components, EPAQ hit RAM limitations and had to break the model down into 22 sub assemblies.
- The necessity to view the whole design needed some impressive computing power.

## Solution

- EPAQ contact hp South Africa and loaned firstly an HP Itanium 1 machine and then an Itanium 2.

## Results

- For the first time, the six designers working on the project could see the whole model on one screen
- EPAQ can now conduct top level interference checking and design reviews to a higher level than ever before
- They have the scope to take on much more sophisticated projects

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