RED-Team White Paper

"RED-Team: The Future of engineering-on-the-go"

Introduction

Thank you for your interest in Eurocom's RED-Team strategy. This white paper will provide you with all the information regarding this strategy, the new business opportunities it creates for engineering companies, the Mobile Solutions needed to implement this strategy and will give you some real examples of how the RED-Team strategy can be deployed. If you have any questions after reading this white paper feel free to contact us via the ways mentioned on the bottom of this page. We hope to hear from you soon!

With kind regards,

Mark Bialic
CEO and Founder of Eurocom Corporation

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Eurocom

Eurocom Corporation is world's leading manufacturer of Mobile Workstations, a state-of-the-art technology that offers all the advantages of conventional computing in a portable package. Since its foundation in 1989 Eurocom Corporation has served its customers with the philosophy that the workplace PC, the home computer, and the laptop can all be replaced by a single, portable solution - the Mobile Workstation notebook. Whereas most notebooks are designed to compliment conventional purchase, Eurocom Mobile Workstations make conventional systems redundant by offering all the amenities of high-end computers in a portable package. Highlights range from 18.4-inch widescreen displays, the fastest processors (i.e. Intel I7 or XEON X55/56 series) and graphics processing units (NVIDIA GeForce or Quadro) to wireless communication, internal web cameras, TV tuners, multiply hard drives and optical drives, DVD Burners, Dual-Channel memory drives, et cetera. The company's most recent triumph has been the release of the fully configurable and upgradeable Eurocom Panther 2.0 model, the fastest Mobile Workstation on the market. In this white paper you will find information on one of the usages of our Mobile Workstation technology: RED-Team.

What is the RED-Team Strategy?

RED-Team stands for Rapid Engineering Deployment Team and allows companies to deploy teams of engineers on customer site fully equipped with Eurocom Mobile Workstations and Mobile Server Technology to perform engineering-on-the-go activities. Traditionally, engineers are used to working from their office developing and creating solutions on their desktop computers as the limited capacity of notebooks prevents them from running their intense engineering software on mobile solutions. Eurocom, the world's leading developer of highly personalized, high-performance notebook PCs, has developed Mobile Workstations that contain the same capacity as professional desktop workstations engineers use in their offices. This allows engineers to adjust their design in their CAD, CAE, GIS, CAM or other engineering programs at customer site based on direct feedback from final users, customers, co-developers and other third parties.

RED-Team benefits
The RED-Team strategy has the following competitive advantages over the traditional way of engineering:
1. Being able to design new products, or address production problems anywhere in the world
2. Offering customers engineering capacity onsite, anywhere
3. Being able to receive feedback and making adjustments face to face with final users, customers, co-developers and other third parties
4. Reduced time to market, downtime and development costs
5. Increased profitability and market share

Hardware

As mentioned before, traditional notebooks on the market are not capable of running the intense CAD, CAE, CAM and GIS programs due to their limited capacity. Eurocom Mobile Workstations are equipped to meet the capabilities of professional desktop workstations. It is the hardware, i.e. Eurocom Mobile Workstations and Mobile Servers that allow companies to implement the RED-Team strategy. In this chapter of the white paper the Eurocom hardware will be described.

Core Technology of Mobile Solutions:

- High-performance Processors: 6-core Intel i7-3960X Extreme or 8-core XEON E5/5600 series processors with 20MB of L3 cache
- Upgradeable graphics processor technology based on MXM 3.0b; from NVIDIA Quadro 5010M, K5000M, K3000M with 4GB of GDDR5 memory to GeForce GTX 680M 675MX, 670MX, 660M with 4GB of GDDR5 video memory, as well as AMD Radeon HD 7970M support.
- Up to 24 GB of high performance DDR3-1333 triple- channel memory
- 64-bit hardware and multiple operating systems support (Windows 7, Windows Pro 64, Server2008R2, Red Hat, Solaris)
- Up to 4TB of storage with up to 4 high performance hard drives, Solid State Drives or Hybrid drives (MLC or SLC depending on performance required)
- RAID 0/1/5/10 for enhanced performance, redundancy or both
- High performance graphics processors including support for NVIDIA's SLI technology
- Large displays (15.6 17.3 inch) WUXGA 1920x1200 or Full HD 1920 x 1080
- Blu Ray and DVD Burning-on the-Go
- 1 Gigabit LAN on-board and support for 2nd 1Gigabit LAN interface via ExpressCard slot
- 102-key desktop-like full size keyboards with separate numeric keypad
- Multiple I/O Ports: 4 or 5 USB 2.0 or 3.0 ports, FireWire ports, serial and parallel ports, DVI/HDMI ports for multiple external monitors, media card readers, Optical digital and analog audio I/O, built-in microphone and stereo speakers, e-SATA for high speed external storage.
- Excellent Wireless: internal up to 450Mbps WLAN 802.11a/b/g/n and Bluetooth 2.0
- Seagate® hard-drives feature G-Force Protection™ to protect your hard-drive when on the move.
- Integrated steel plate behind the LCD
- Equipped with heat sinks, ventilators and copper to optimally distribute and vent generated heat.
- Easy access for future upgrades.

Eurocom Product Line

As can be seen on the Eurocom website (www.eurocom.com) the extended line of highly customizable products offers a tailor made solution for each type of engineer. For users with high demand for graphical power there is the EUROCOM X8100 Leopold with its 18.4 inch full HD 1920-by-1080 pixels screen. This notebook can be equipped with the superior NVIDIA Quadro FX3800M VGA card for optimal graphical performance. For the users for which speed is of the essence, they will find a perfect match in the EUROCOM Panther 2.0 equipped with a XEON W5680 processor (6 cores), 24 GB DDR3-1600 RAM and 4 physical hard drives with RAID 0 configuration for maximum performance.

Power categories

The power of a Mobile Workstation is largely dependent on the CPU. Regarding this power, Eurocom differentiates three levels: Entry, Middle and Professional. For the Entry Level Mobile Workstations Eurocom recommends to use processors from the Intel$^®$ Core$^™$ i7 CPU series. For Medium Level Mobile Workstations Eurocom recommends CPU's from the Intel$^®$ Xeon$^®$ E5-2600 processor series. The Eurocom Professional Mobile Workstations are equipped with processors from the Intel$^®$ Xeon$^®$ E5 CPU series for optimal processing performance. Many customers are surprised to see these CPU's offered in mobile workstations since they are designed to be desktop workstation processors. Eurocom is the only mobile workstation manufacturer that is capable of installing these superior CPU's in our Mobile Workstations and the heat sinks, ventilators and copper necessary to distribute and vent the heat generated by these CPU's.

Mobile Server

Besides a personal Mobile Workstation for each individual RED-Team member, the RED-Team is also equipped with a Eurocom all-inclusive Mobile Servers (including screen, keyboard, CPU, Hard Drives into a one piece of equipment in notebook form) weighing no more than 11.66 lbs (5.3 Kg). The function of the Mobile Server is to contain the Master file set, backs up the data and connect the RED-Team members. Redundancy and storage are of the essence for this piece of equipment.

Companies that are currently deploying engineers on customer site often have them carry a tower server with them. The advantages of a Eurocom Mobile Server over a Tower server are:

- Tower servers is large, bulky and not very portable while the Eurocom Mobile Servers have the dimensions of a notebook (W x D x H = 412 x 279 x 39-48 mm or 16.48 x 11.16 x 1.56-1.92 inch)
- Eurocom Mobile Server comes in a notebook form factor meaning it including an integrated screen & keyboard.
- Eurocom Mobile Servers can be hand carried on a plane so your valuable data doesn't have to be checked in.
- Eurocom Mobile Servers are equipped with Internal Wireless LAN 802.11a/b/g/n that allows the engineers to be linked with a fast wireless connection.
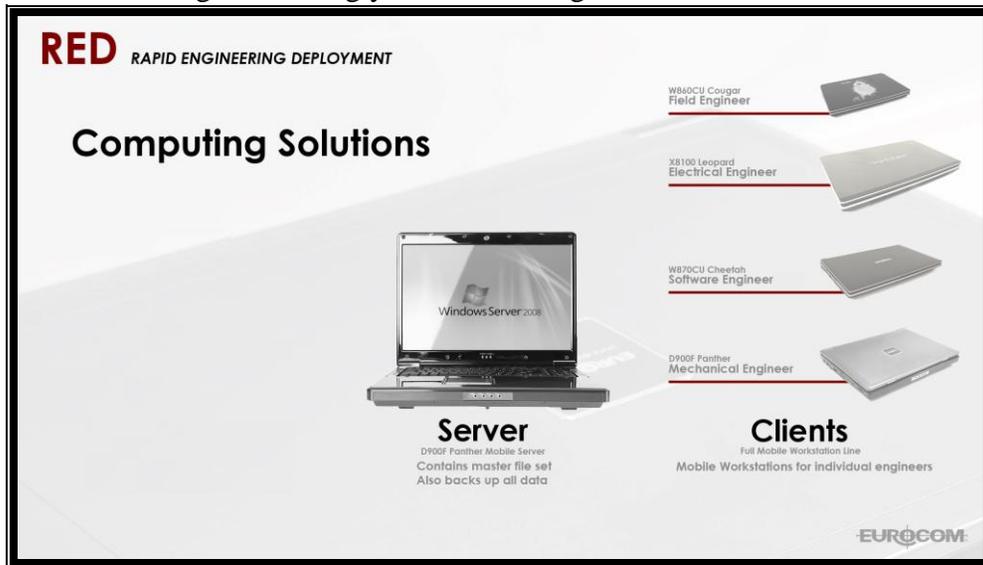
Redundancy and storage are essential features for servers. The D900F Panther can be equipped with 4 hard-drives containing 3 TB of storage, RAID 10 configuration for redundancy and increased disk performance and a 6 core XEON 5680 CPU. With this piece of equipment the team of engineers is provided with a network similar to that in an office environment.

Floater

Another functionality of the Eurocom Mobile Workstation we would like to mention briefly is what Eurocom defines as the Floater. The Floater is a Eurocom Mobile Workstation that will function as a back-up workstation. This Floater can be deployed if one of the workstations in the organization breaks down and allows the engineer to keep on working while the broken workstation is being repaired. Having a Floater in the organization reduces downtime of the engineers. This Floater can both be used in the office environment and when deploying a team of engineers on customer site when performing Engineering-On-The-Go activities.

Eurocom RED-Team Hardware

Equipped with a Mobile Workstation for each individual engineer and a Mobile Server to link the computers into one network, run the engineering software and store and back-up the master data the engineering team has the same computing technology at its disposal as it would have in their office. They now have the opportunity to develop their design with direct input from final users, customers, co-developers and other third parties, adjust the master design accordingly without having to travel back and forth to their office.

Example of RED-Team solution

Hardware benefits:

- Capabilities of Mobile Workstations meet those of professional desktop workstations with the clear advantage of mobility and portability.
- Scalable (add more RED-Team members seamlessly) and upgradeable technology
- Full computing solutions can be hand carried on plane
- Solid State Storage Capacity and Seagate® hard-drives featuring G-Force Protection™ for enhanced reliability
- Configurable with RAID 0/1/5/10 for reliability and/or speed (unique for notebook technology)
- High performance, desktop CPU's, VGA cards, storage, redundancy, memory, etcetera.
- All notebooks can be configured to tailor the needs of the different users.
- Different functionalities offered on one technology platform.

Level of RED-Team Appliance

The RED-Team strategy can be applied by companies in different levels. A company can choose to purchase only one Eurocom Mobile Workstation and offer Engineering-on-the-go consulting services to its customers or it can choose to replace all desktop computers with Mobile Workstations and integrate the RED-Team strategy with the organization's competitive strategy.

RED-Consultant

This form of RED-Team requires only requires the acquisition of one Mobile Workstation. This piece of equipment allows the individual engineer to perform on-the-go consulting activities or test his draft design with final users in the field.

RED-Project

The medium level of RED-Team implementation is applying the strategy on a project base. By equipping an engineering team with Mobile Workstations for each individual and a Mobile Server to contain the Master file set, backs up the data and provide a network for the RED-Team members, the engineering company can provide its customers with the extra service of applying the team at customer site to increase speed to market and reduce development costs.

RED-Enterprise

The ultimate form of RED-Team implementation is to integrate the RED-Team Strategy in the competitive strategy of the organization. This requires the organization to provide all the engineers with Mobile Workstations and have Mobile Servers available to apply for every project. The advantages of the RED-Team strategy are aligned with the company's competitive strategy.

RED-Team Case Studies

The RED-Team strategy is currently being deployed by a few innovative companies such as Siemens, Apple, Microsoft, Tyler Technologies, Erickson and Lockheed Martin. They have already yielded the benefits of Rapid Engineering Deployment Team strategy, a strategy which can be deployed in a wide variety of industries. We will provide you with a couple of examples:

Mechanical Engineering
In this design & development process the engineer of a ground-breaking consumer electronic product manufacturer benefited from the capacity and portability of Eurocom Mobile Workstations to adjust the original design based on the feedback he received face-to-face from clients and end-users worldwide.

Infrastructure
Our customer in the infrastructure engineering industry has deployed a whole team of engineers on customer site when they were designing, constructing and servicing a state-of-the-art power generation facility. By using a combination of several types of customized Mobile Workstation and a Mobile Server they have finished the project 30% faster compared to their traditional way.

On-site-training
CAD Training facilities have the same high demands when it comes to computing hardware as engineers do; they need hardware that can run the intense engineering software. On top of that, customers are also demanding on-site training. A few pioneering companies in this industry are currently using Eurocom Mobile Solutions to facilitate this demand.

Software development
Another industry that has shown to benefit from Eurocom Professional Workstations is the software development industry. These workstations allowed our customer to run various Virtual Machines on one workstation.

Emergency Relief Actions
When stepping into an emergency zone, the emergency relief teams have the hard task to create order out of chaos. Eurocom Mobile Solutions gives the emergency relief teams the tools to structure and organize their relief efforts when dealing with floods, terrorist attacks, earth quakes, hurricanes, forest fires, volcano eruptions, and many other disasters. The mobile and portable characteristics of Eurocom Mobile Solutions are ideal for emergency relief teams that need to respond and relocate to the disaster scene the second the bad news comes in.

Engineering Business Development activities
To create new business Engineering companies participate in fairs and visit customers where they show the capabilities of their organization by previous projects. Many marketing people do this currently by copying and pasting the designs of the previous projects from CAD, CAM, CAE and GIS software into a PowerPoint presentation to show it on an ordinary laptop. Companies working with Eurocom Mobile Workstations have send engineers along with the marketing team when visiting prospects or fairs to show the actual capabilities of the company with good results.

Implementation of RED-Team

The transition from the traditional engineering process to an organizational wide RED-Team strategy will take time. Eurocom has developed a 5 step implementation strategy that will guide engineering companies to implement this strategy.

Step 1: Desktop with additional notebook
Only 25% of the workstations sold in 2009 were mobile workstations; 75% of the units are desktop based workstations. Market research has taught us that many engineers carry a notebook next to their desktop workstation to store notes while traveling. Next to the expenses of an extra piece of hardware, having a second workstation comes with another difficulty: data synchronization.

Step 2: Introduction of mobile workstation to the organization
We suggest companies change your computers at a calm paste; one or two initial Mobile Workstation that combines the performance of the engineers desktop with the mobility of his notebook in one piece equipment. By investing in this new technology at a calm paste they can get used to the product and see the advantages without having to make a large initial investment.

Step 3: Deploying one or two mobile workstation on location
When the organization is comfortable working with the mobile workstation in the office environment it is time to take full advantage of the opportunities of the mobile characteristic of the workstation; deployment at customer site. The initial adaptors of the product probably already experienced the benefits of mobile workstations and would want to take the products out to meetings with customers and other involved parties.

Step 4: Equipping a RED-Team
When the customer is satisfied with the purchased mobile workstations and acknowledges its potential Eurocom advices to equip a whole engineering team with Mobile Workstations. Adding a Eurocom Mobile Server to this team allows the organization to deploy the "RED-Team" at customer site and take full advantage of its benefits. To measure the benefits, the company can benchmark a project where applying the RED-Team strategy to a conventional engineering project.

Step 5: Implemented RED-team strategy organization wide
This is the ultimate step in the mobile workstation team development. In this phase the organization equip all engineering teams with mobile workstations and servers and build the organizational strategy around the RED-Teams. The advantages of the new business opportunities measured by benchmarking the RED-Team project to the conventional engineering project can be used as a competitive advantage in marketing to develop new business.

Conclusion

The innovative Eurocom Mobile Solutions allow engineers to perform engineering activities outside the office. Equipped with a Mobile Workstation and Mobile Server, engineering teams are no longer office bound and have the opportunity to design, develop and adjust their project designs on site with the advantage of receiving feedback face to face from final users, customers, co-developers and other third parties. If you would like to know more about the RED-Team strategy, the business opportunities, Eurocom Mobile Solutions or have any other inquiries please feel free to contact us:

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We hope to hear from you soon!

With kind regards,

The Eurocom Team