***TECHNOLOGY/VENUE TECHNOLOGY***

1. **KEY STATISTICS**

The Venue Technology Team belonging to the IT Department is responsible for the implementation of the technical design at each athletic and non-athletic venue. The objectives of the team were divided based on three time groups:

***PRE GAMES PERIOD***

Basic concern of the team was the continuous communication with all the functional areas, so as to be able to comprehend their needs, filter and implement them. Meanwhile the team would suggest solutions as far as the systems and networks infrastructure was concerned. The key factor to the design was achieving the best possible service level with a minimum cost. For this reason intensive controls were set and followed at the infrastructure of the venues that were in use. Such controls checked the UPS Systems, air-conditioning systems, ventilation systems, lighting, network cabling. Thus suggestive and corrective actions were incorporated in the implementation. The numbers of venues in use by the Olympic Committee were 48. This number includes the competition venues, the hotels, camping sites, exhibition centers and the airport.

The design and implementation for each venue was done in the following steps:

**Design:**

* Requirements from sport
* Preliminary design of FA requirements
* Technology equipment selection
* High electrical loads calculations
* Low electrical loads calculations
* HVAC calculations
* Cable paths drawings
* Technology preliminary design review
* Technology final design review
* Budgeted quantity list
* Budgeted cost list

**Technical Documentation – Requirements:**

* Tender documents

**Project Assignments:**

* Contractor selections
* Procurement phase

**Construction:**

* High current installation
* Low current installation
* Greek ISP connections
* Tech FF&E installation
* Cabling connections testing
* Equipment testing

With the completion of all the above phases an implementation plan concerning all new construction needs was set based on the venue hand over, the supplies and the human resources. You will find the timetable that was created attached.

Our role in the writing of the standards was clearly advisory because of the following two reasons: a. the maintenance of each venue was undertaken by the local maintenance teams that were employed by the venues b. The management and writing of the memorandum of the venues belonged to the athletics field. Our technical reports are attached.

Another important task that the venue technology team was responsible of implementing was the venue internal radio communication. This was achieved by combing UHF and PMR based on the complexity and total area to be covered. To cut down on costs, extensive tests with three different types of wireless transmitters and receivers were conducted based on the workflows designed by each functional area. The policy and procedures for their use was the next step to be implemented, followed by their programming based on the talk groups. A Venue Communication Center did not operate and thus each user was responsible for the use of the PMR. Also the right to switch talk groups was only given to the team leader. The procedures and policies for the radio communications have also been attached.

In an effort to optimize our need and to keep the costs down to a minimum, a pool of common personal computers and telephone devices was created. This was made possible mainly because of the creation of personal accounts for use on all systems and call centers. All printers were network capable so, based on the venue topologies, many common printers were installed and used. This optimization brought forth a further reduction in networking equipment (switches and routers). Please note that functional areas were placed near each other in venues so as to share networking equipment.

***GAMES PERIOD***

The technology department created for each venue a local support team. Head of this team was the Venue Technology Manager. His duties at games period included:

* Continuously communicating with the local functional areas.
* Evaluating the needs and changes from the original planning.
* Checking the proper operation of the technological services based on the approved policies and procedures.
* Making sure the Venue Technology Team functioned in a proper way (presence, immediacy, communication)
* Managing problems that could not be solved locally
* Managing Technological Equipment (Delivery, Storage) and managing supplies (toner, power strips, patch cords, etc).

***POST GAMES PERIOD***

At this phase the venue technology team was responsible for collecting all the equipment, after careful counting and cross-checking, and for the shipment of this equipment to the Olympic Committee’s warehouse. There was also contact with the venue’s officials, as they would close down, so as to check if all extra constructions needed to be taken apart and to do so promptly if agreed.

1. **HIGHLIGHTS**

The technology department developed all its services in the competition and non-competition venues. Prerequisite to the proper implementation of our services was collecting in time all the needs in technological equipment as well as the architectural plans of all venues. The initial timeframe included completion of the infrastructure design by September 2010 and the finalization of the technological needs by October 2010. This was not implemented on time and changes in planning and equipment would occur even 2 weeks before the opening ceremony. This resulted in us trying to estimate the exact number and type of technological equipment (systems and network), in order to notify our sponsor that would supply us with this equipment.

Another important issue was the delays in the handing over of the venues. Original planning for most non-athletic venues was 3 months before the opening ceremony, but were finally handed over 1 month before the beginning of the games. The consequence of this delay was the hiring of extra electricians as the venues had to be prepared simultaneously.

Security at the venues was inadequate as far as the IT department is concerned.

Constant changes in the budget during the design and implementation process brought about many delays and influenced design of other functional areas as well.

The Venue Technology Staff were employed at a later than originally agreed date, thus not giving enough time for their proper briefing and training.

There was limited access to all telecommunications and power rooms which caused delays during network and power failures.

1. **FAs MAJOR ISSUES & RECOMMENDATIONS**

|  |  |  |
| --- | --- | --- |
| *No* | *Issue Description* | *Recommendation* |
| *1* | Finalization of Venue drawings  | One month after test events or ten months prior to Games. |
| *2* | Technology equipment needs | Must be final after the delivery of drawings.. |
| *3* | Overlays budget | Must be calculated after the inspection of the functional existing infrastructure in accordance with the needs in technology equipment of every room in use. |
| *4* | Venue handover | Four months prior to the games.  |
| *5* | Venue Technology staff | Four months prior to the games. |
| *6* | Venue lock down | Venues must be locked down by the local authorities to secure the equipment. |
| *7* | Access to all Telecommunication and Power rooms  | Technology Team must have access twenty-four seven in all Telecommunication and Power Rooms. |
| *8* | Changes in Telecommunication and Power infrastructure  | All the changes in Telecommunication and Power infrastructure must stop one month prior to the Games for Venue Tests. |
| *9* | Technology equipment retrieval | The last day of Games after the last competition all technology equipment (pc, printers, phones, etc.) must return to technology storage room in order to avoid any loss. |

1. **MAJOR ISSUES WITH OTHER FAs**

|  |  |  |
| --- | --- | --- |
| *No* | *Functional Area* | *Issue Description* |
| *1* | *ALL OTHER* | *The required technology equipment doesn’t meet the true needs, we concluded in the true needs after a lot of meetings.*  |
| *2* | *ALL OTHER* | *Technology Policies and procedures weren’t revised carefully. We had to explain over and over again till few days prior to the Games.* |
| *3* | *Logistics* | *Luck of logistics personnel to all venues. VTM’s had to write and sign the delivery receipts.*  |
| *4* | *Sport & Venues* | *The delivery of the final venue drawings and ff&e needs wasn’t on time. We had to make assumptions in order to have a complete overlay plan with an accurate budget calculation.*  |
| *5* | *Volunteers* | *One month prior to games we had to deal with volunteers by ourselves in terms of allocation, communication, train and arrange them to shifts.*  |
| *6* | *Security*  | *Level of security at Venues was poor*  |

1. **SUPPLEMENTARY MATERIAL**

***VENUE TECHNOLOGY TEAM***

The Venue Technology Team consisted of 30 highly capable individuals that were allocated as follows:

* Venue Technology Officer (1)
* Complex Technology Manager (2)
* Venue Technology Manager (22)
* Electromechanical Engineer (1)
* Electricians (4)

For each venue there was one VTM assigned, unless a venue would operate at an earlier time than another and thus one VTM would be used in both.

 ***COMEPTITION VENUES***



***NON-COMEPTITION VENUES***



***MODEL VENUE TECHNOLOGY EQUIPMENT ALLOCATIONS***

* **VOC (Venue Operations Center):** The average number of computers provided was 4-5 desktops, 1 printer, and 2-3 telephone devices.
* **FoP (Field of Play):**  In the FoP we created computer stations for laptops that would host the GMS program. The exact number of these stations was defendant on the laptops that the Sport would require. The number of printers would vary depending on the sport’s demand for reports. It was important to check the efficiency of lighting and air conditioning in FoP, to meet the needs of the sport. We also had to be aware of the use of other devices (timers, scoreboard, ...) that would require power.
* **Competition management room:** We provided 1 desktop computer, 1 printer, 1 telephone.
* **CMMR (Competition management meeting room):** We provided 1 projector. The laptop to be connected with the projector was any one that was not used at the moment. The frequency of the meeting was not big and usually were scheduled after the competitions. Exceptions were made after the request of the sport managers.
* **GMS Room:** In the GMS room we created workstations for the laptops that had the GMS program installed. The exact number of these stations was defendant on the laptops that the Sport would require. The number of printers would vary depending on the sport’s demand for reports
* **Sport presentation:**  We provided 1 laptop connected to a projector, TV or scoreboard. In each venue Sport Presentation varied, so good communication with the sport presentation was a prerequisite to finalize the design and to cover additional needs in infrastructure. We had no involvement with the sound systems apart from power supplies.
* **Venue Staffing Area:** We provided 1 desktop computer that had the VMS program installed and 1 telephone device. If the venue staffing was placed in an unsecured location, the desktop was then placed in the VOC area.
* **Medical room:** In the Medical Room we provided 1 desktop computer, 1 telephone device. We also made sure that there are 2 extra workstations and the existence of multiple power sockets.
* **Athlete’s lounge**: We provided a desktop or laptop computer, based if the area was secure, a colour printer, a camera and a set of speakers.
* **VIP lounge:** We provided free Internet access by creating a Wi-Fi hotspot.
* **Merchandising store**: We asked the contractor to have a 3G capable credit card machine.
* **Press workroom:** We provided 1 desktop computer, 1 printer, and 1 telephone device for the Athens 2011 staff. We also provided a desktop computer for general use by the reporters not working with the organizing committee. This desktop had free internet access. We also installed an access point to give journalists with their own personal computer internet access.
* **Technology room:** We provided 3 desktop computers and 2 telephone devices. In the Computer room we had to ensure an adequate amount of power sockets, as the PMRs were charged there daily.