



Bid Bulletin No. 1
 September 10, 2019

PUBLIC BIDDING NO. 19-276-PSC

**Procurement of Games Information System Managed Services for the
 30th Southeast Asian Games (SEAGIS)**

Issued pursuant to Sec. 22.5 of the IRR of R.A. 9184 to clarify and/or amend certain provisions in the Bidding Documents issued for this project, considering the issues raised and clarifications made by prospective bidders during the **Pre-Bid Conference** held on **03 September 2019**, likewise, respond to bidders' written queries received within the prescriptive period for filing.

A. AMENDMENTS

REFERENCE				CLARIFICATION
SECTION I. INVITATION TO BID				
Page 4				To amend the required contracts for similar project to at least 15 years.
1. xxx Bidders should have completed, within five (5) <u>fifteen (15)</u> years from the date of submission and receipt of bids, a contract similar to the Project.				
SECTION VII. TECHNICAL SPECIFICATIONS				
Page 71				To correct the reference name of the Terms of Reference. Provided in details attached as <u>Annex A of the Supplemental Bid Bulletin</u> is the Technical Specifications compliance table which should be filled in by bidders.
AGENCY SPECIFICATIONS	BIDDER'S STATEMENT OF COMPLIANCE	BIDDER'S ACTUAL OFFER	REFERENCE TO EVIDENCE SUBMITTED	
Must comply with all the eligibility, technical requirements and any other conditions indicated in the Terms of Reference attached as Annex A <u>Appendix A</u> .	xxx	xxx	xxx	

SECTION VIII. BIDDING FORMS	
Schedule of Prices	The Schedule of Prices as part of the Bidding Forms is attached as <u>Annex B</u> of the Supplemental Bid Bulletin.

B. CLARIFICATIONS

SECTION III. BID DATA SHEET	
<p>BDS 5.4 Page 38</p> <p>xxx For this purpose, similar contracts shall refer to any contract for Games Information System Managed Services for major international sport events directed by the International Olympic Committee (IOC), Olympic Council of Asia (OCA) or other international sport organization which are of continental level.</p> <p>xxx</p> <p>Query:</p> <p><i>The prospective bidder asked whether contracts completed for SEA games level category will be considered.</i></p>	<p>Any contracts for GIS Managed Services for major international sport events <u>regulated</u> by other international sport organization (<i>i.e. Southeast Asian Games Federation, etc.</i>) but <u>with supervision</u> of the IOC and OCA, will be considered.</p>
SECTION VII. TECHNICAL SPECIFICATIONS	
<p>Does the working system to be demonstrated in the required link include customization?</p> <p>Criteria with regards to the application's readiness status.</p>	<p>The link to the bidder's demo should show a working system showing all the required operational services of the GIS indicated in the Technical Specifications.</p> <p>In addition, the percentage of readiness as indicated in the Technical Specifications is equivalent to an existing/working system that is capable of being customized. This will be determined through the link to the demo system that will be provided in the bidder's technical offer.</p>
<p>Whether there is a variation order on the instances that additional sports will come out during or last minute before the event.</p>	<p>The fifty-six (56) sports enumerated in the Terms of Reference are the one's committed and covered by the contract. Any changes in this category will be dealt separately.</p>
<p>Whether an equivalent "Agile CG" can be proposed.</p>	<p>The indicated name is for reference only. Any equivalent Digital Character Generator is acceptable as long as it provides all the features as required. To</p>

	clarify, part of the attached as <u>Annex A of the Supplemental Bid Bulletin</u> provides the corrected specifications including this matter.
Request that the information and available equipment on the timing/scoring system of every sport venue will be provided.	Provided as <u>Annex C of the Supplemental Bid Bulletin</u> is the List of Venues, Sports Systems, Technical Handbook, List of Test Events and Schedules.
Request to provide the details on the sports that have test events, the objective of the test event and the technical rehearsal.	
System provider on the data infrastructure.	
Whether the Games Management System (GMS) module under TOR or the GMS under the attached Technical Specification will prevail.	The module of the Games Management System under the attached Technical Specifications should be complied with. Other features in the TOR that is not consistent with the Technical Specifications serves as an optional requirement for the bidders.
Whether bidders need to submit the Curriculum Vitae (CV) of every personnel for the Organizational Chart.	Curriculum Vitae (CV)'s need not be submitted but the key/lead personnel's name of the specific positions should be reflected. It should also be indicated whether the personnel will work in-country or remote deployment.
Will the official newscaster to provide TV Graphics?	TV Graphics will be provided by other third party supplier. However, the winning bidder needs to communicate with the TVG provider for the interfacing requirements. The winning bidder must supply the equipment necessary to integrate and interface with Broadcast and Media. <u>Attached as Annex D of the Supplemental Bid Bulletin</u> is the List of Sports with Live Coverage for reference.
Detailed Plan for the Main Operation Center and Technology Operation Center.	This will be provided to the winning bidder during implementation stage.

All other portions of the Bidding Documents affected by these amendments shall be made to conform to the same.

Amendments/inclusions/clarifications made herein shall be considered an integral part of the Bidding Documents.

The changes made in the Philippine Bidding Documents (5th Edition, August 2016) are deemed integrated in the terms and conditions for this project.

(SGD) ULYSSES H. DELA CRUZ
Chairperson, Special Bids and Awards
Committee for SEAGIS

ANNEX A

TECHNICAL SPECIFICATIONS COMPLIANCE TABLE

TECHNICAL SPECIFICATIONS	BIDDER'S STATEMENT OF COMPLIANCE	BIDDER'S ACTUAL OFFER	REFERENCE TO EVIDENCE SUBMITTED
<p><i>Must comply with all the requirements indicated below:</i></p>	<p>(State "comply or "not comply")</p>	<p><i>Indicate actual offer similar to the requirements</i></p>	<p><i>Indicate page no. or sections on the brochure/technical document/literature submitted and link to demo system</i></p>
<p>OVERVIEW:</p>			
<p>In a very high level, the solution must include the following systems and services. The requirements include all the operational services for the Games Management System.</p>			
<p>SEAGIS Systems</p>	<p>Services</p>		
<p>Games Management System</p>	<p>Accreditation Staff and Volunteers Management Arrivals and Departures</p>		
<p>Central Results System</p>	<p>Results / Competition Configuration Module Central Result Module (repository) Results Monitoring Module Medal Tally</p>		
<p>Venue Results System</p>	<p>Results Printing & Distribution OVR and Timing and Scoring TV Graphics Commentator Information System / Real Time Display System</p>		
<p>Games Support System</p>	<p>Tools for SEAGIS Monitoring Help Desk System Deployment Management System</p>		

<p>INFO / Internet data feed</p>	<p>Interfaces Interface with Venue Results System Central Results System - Games Management System Interface Central Results System - INFO2019 / Internet Interface System Interfaces Central Results System - Other Organizing Committee Systems INFO2019 Contents IIS / Mobile Information System</p>		
<p>SUMMARY OF REQUIREMENTS:</p>			

2.2 Interfaces and protocols	<p>All subsystems must work in a seamless fashion, sharing the same database and information to speed up operations and overall IT performance.</p> <p>Must also adhere to ORIS (Olympic Result Information System) standards for competition when interacting with sport specific systems.</p>		
2.3 IT System Platforms			
<i>Hardware</i>	List of all equipment has been provided as a supporting doc.		
<i>System Software</i>	Provide all the required software and licenses to implement, deploy and operate the systems including Cloud Services.		
<i>Networking LAN and WAN</i>	Must use standard Ethernet protocols for internal Games VLAN and WAN networks with bandwidths of 1Gbps to allow for upstream and downstream		
<i>Video</i>	Must have a software development tool that can generate the required TV signals in a standard TV feed in each venue.		

2.4 HW sizing estimate	A separate document will be provided with an estimate of all equipment to be used for each venue.		
2.5 Backup and disaster recovery	The systems must be designed to ensure recovery from failure on the network or communications without loss of data, and must rely on cloud environments to ensure the resiliency and operational continuity of the systems that are deployed on cloud environments.		
2.6 Major reports list and reports layout	As part of the system documentation the bidder must provide a list of the different reports available for users and how to access them.		
2.8 IT and Telecommunications infrastructure	Connectivity to monitor and operate remotely the systems through a VPN connection.		
3. Implementation Requirements			
3.1 Requirements of products and services	Detailed functionalities and scope of the solution including products and services must be included.		

3.2 Requirements for testing and test events	Bidder must conduct different tests from unitary tests on specific functionalities to integration and performance tests either simulating the competition conditions or using the test events and technical rehearsals before the competition.			
3.3 Methodologies and standards	Must apply methodologies for project management, risk management, quality assurance and product development during all the project enforced through their management team.			
3.4 Planning delivery Milestones	Bidder must adapt to the project plan and staffing plan to any changes in the milestones during the duration of the project.			
4. Performance Requirements				
4.1 Manpower	Bidder must provide a highly skilled team to cover all the main project activities, supervised by a project management personnel.			

4.2 Project Organization	An organization chart for project governance and delivery must be provided according to ORGANIZING COMMITTEE's necessities and experience in similar events.			
4.3 Project Staffing Plan	Bidder must have a top quality Staffing plan following Methodologies and quality standards that are aligned with the IAAF and the IOC.			
4.5 Experience in World-Class Events	Bidder must have a proven and exceptional track record with experience in operating Games Information System for at least three (3) Major International Multi-Sport Events (ex. Olympics, Asian Games, Paralympics, Special			
TECHNICAL REQUIREMENTS:				
Games Information Systems Applications				
Bidder must provide a complete solution based on its solutions for sports events, complemented by its capabilities for IT Service and Infrastructure provisioning worldwide.				
Must have a set of working modules for multisport events that cover the majority of the functionalities, and which have been used for at least three (3) Major International Multi-Sport Events (ex. Olympics, Asian Games, Paralympics, Special Olympics, etc.)				
In terms of developing and testing, a non-critical adaptation and the usual unitary, integration, performance and security				

testing of the systems and infrastructure must be performed.
 Bidder must have the current readiness status of the applications:

Sports Software Status	% of Readiness
Games Management System	
Accreditation	90%
Staff and Volunteers	90%
Arrivals and departures	90%
Central Results System	90%
Results / Competition	90%
Central Result Module	90%
Results Monitoring Module	90%
Medal Tally	90%
Results Printing &	90%
INFO / Internet data feed	90%
Interfaces	80%
Interface with VRS	90%
CRS – GMS Interface	90%
CRS – INFO2019 / IIS	90%
Venue Results System	
Sports / Disciplines	75%
TV Graphics	85%
Commentators Information System / Results Printing and	75%
Results Distribution System	
INFO2019	75%
Contents	50%
CMS	75%

<table border="1"> <tr> <td>IIS / MIS</td> <td>75%</td> </tr> <tr> <td>Contents</td> <td>50%</td> </tr> <tr> <td>CMS</td> <td>75%</td> </tr> <tr> <td>Games Support System</td> <td></td> </tr> <tr> <td>Tools for SEAGIS Monitoring</td> <td>90%</td> </tr> <tr> <td>Help Desk System</td> <td>90%</td> </tr> <tr> <td>Deployment Management</td> <td>90%</td> </tr> </table>	IIS / MIS	75%	Contents	50%	CMS	75%	Games Support System		Tools for SEAGIS Monitoring	90%	Help Desk System	90%	Deployment Management	90%			
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<p>Games Management System</p> <p>The Games Management Systems must provide the ORGANIZING COMMITTEE a complete solution for the administration of the Games. The Committee will be able to manage the Event, have a central data base, perform queries, administer reports and control the budget.</p> <p>The Games Management Systems covers the main functionalities to manage the Games operation around the competition. Must comply with the main characteristics required by the Organizing Committee:</p> <p>Single data base: all information is stored in one single database system that is shared among all modules. The GMS applications are all integrated and work and communicate with each other. This integration and modularity is one of the main keys for the success of the GMS Solutions. The applications must work in a centralized way so that all the information is received in all the modules in real time and kept in a central database. There must be a Report Printing Tool as part of the system which generates reports according to search parameters and fields. These reports are an important tool to keep track of an event's expenses. Further, to go with the reports, the system has a powerful search engine tool to do massive searches. The system must have the possibility of tracking the different actions which take place within the system. The GMS applications must be modular, flexible and have several configuration options.</p> <p>Single sign on: access to GMS is granted based on user access</p>																	

<p>rights. Once logged in, a user must have access to all the modules within his scope. The GMS applications must be built in Web based platforms as the use and access has to be done in most cases by many users and from many different locations. The access is controlled and validated by user-password security features. Therefore, the information can only be accessed by the profiles the ORGANIZING COMMITTEE defines. Further, the management of this information will also be restricted to specific user profiles.</p>		
<p>Multi-event: Games Management System solution must be used for different types of events such as Test Events and Competitions, and must be reutilize the same modules across several events, making the required customizations for each sport/event.</p>		
<p>A group of managers and experts must support the operation phase and will be on-site controlling and managing any issue and/or event that may happen with the systems and must also establish what the working procedures will be behind the GMS system to help further define the options contained in the modules.</p>		
<p>Bidder must adapt its solutions to each event. The GMS applications must be customizable for each client not only for the services and requirements coming from the users and clients, but also depending on the working philosophy, culture, and working procedures of each user, client and country. The "look and feel" and modules of the system will be personalized to the requirements of the ORGANIZING COMMITTEE.</p>		
<p><i>Accreditation:</i> The Accreditation System must be advanced, comprehensive, and modular software developed to control the accredited participants in an event of any type. It manages the registration of participant's personal data, the assignment of privileges and the provision of clearly visible accreditation badges. This system must be customized and scaled to suit the needs of a specific client.</p>		
<p>The participants typically belong to the following categories: <input type="checkbox"/> Event Family</p>		

<ul style="list-style-type: none"> • Athletes and coaches • ORGANIZING COMMITTEE Members • Media • VIPs • Guests <p>▶ ORGANIZING COMMITTEE Staff</p> <ul style="list-style-type: none"> • Volunteers • Sponsors • Security 			
<p>Accreditation:</p> <p>▶ Identifies all the participants. Only entitled people can participate in the Games.</p> <p>▶ Assigns the access rights to which every participant is entitled according to its designated function.</p> <p>▶ Produces an accreditation pass for every participant, which clearly identifies the participant and indicates the assigned access entitlements.</p>			
<p>Finally, the Accreditations module's goal is printing accreditations, allowing the creation, modification, approval / invalidation collecting accreditations as well as the generation of delivery schedule and associated reports.</p>			
<p>Each Accreditation Area is responsible for the identification and registration of participants in order to establish eligibility and provide the appropriate level of access to facilities. This access is manifested in an accreditation pass.</p>			
<p>The system allows the generation of an accreditation from scratch. Once the personal data has been input, and the group, category and function of the person specified, the system automatically fills the privileges of that function (areas, venues, day, sports, stand, catering and transport) according to the matrix of accreditation, previously designed according the</p>			

<p>requirements of the Committee. The registration number uniquely identifies every single participant registered with the database on Accreditation.</p>		
<p>It is very important to have definite matrix accreditations of each group, category and function, before the generation of these accreditations. Matrix definition must be provided to the bidder.</p>		
<p>The module must validate the credentials and an accreditation can be printed where if it is not validated, it will not be active to pass an access control.</p>		
<p>The Layout of accreditation must be customizable. The Organizing Committee can choose size of accreditation (under some standard sizes) font, background, location of privileges, sponsor logos, barcodes, etc.</p>		
<p>KEY FEATURES</p> <ul style="list-style-type: none"> ▶ Easy configuration of the Accreditation Business needs, defining: <ul style="list-style-type: none"> • Categories, Functions (Media, Teams, Volunteer, ...) and Privileges (Competition Venues, Access Area, Catering, Transport, ...), and their representation in the badges with color, wording or icons • Management of Quota per Sub-Category, Function or 2PP passes per Organization. • Privilege Matrix, which means the privileges that each participant will be automatically entitled, based on his/her profile (subcategory, function, localizations or sports). The assignment of privileges is mostly using the privilege matrix but additional privileges can be added or removed for each participant individually. • Criteria to automatically detect duplicated participants. ▶ Extensive participants' tracking, to search and 		

<p>maintain participants' data including the participant badge production history.</p> <ul style="list-style-type: none"> ▶ Seamless integration with image capture devices to capture participant live picture during the registration process in the accreditation center. ▶ Robust and flexible implementation of the accreditation process. ▶ Sophisticated production of badges: <ul style="list-style-type: none"> • Automatic printing of a 1D/2D barcode, codifying the participant badge id. • Badges may be produced by massive processing or one-by-one. • Robust accreditation version management to avoid duplicates. <p>OTHER FEATURES</p> <ul style="list-style-type: none"> ▶ Different types of passes: Nominative passes, Non-Nominative passes, Day Passes, and Guest Passes. ▶ Interface with other systems as Access Control, Background Check, VISA, Sport Entries and Qualification and other Games Management systems. ▶ Data import and export in Excel format (export only). 		
<p><i>Internet Registration:</i></p> <p>The submission of participant's forms through the internet is possible using the Electronic Registration Form component that allows external organization to register the participants.</p> <p>KEY FEATURES</p> <ul style="list-style-type: none"> ▶ ECR supports that Responsible and Affiliated Organizations register participants through 		

<p>a specific Registration Forms for their Event Staff, Teams, Media, etc. It can also be used to register Volunteers applications. Registration of participants can be done in a bulk way, through an Import process:</p> <ul style="list-style-type: none"> ▶ Different types of participants' data can be downloaded from the system. ▶ Streamlined and intuitive process to manage the accounts (e.g. login and passwords) of Organizations (e.g. Delegations Managers, Media Managers or others). 			
<p>OTHER FEATURES</p> <ul style="list-style-type: none"> ▶ Automatic generation of emails when the participant is registered and/or submitted (with personalized emails by using templates). ▶ Eventual limitation of participant submitted per Organization and Form, according to the setup quota. ▶ Day Passes can be requested electronically through the internet. ▶ Powerful security measures to enable external users such as Responsible Organizations managers to access just specific functions and specific data. 			
<p><i>Security:</i></p>			<p>An approved application may not be accredited without passing the security check (BGC Export). Any application may only be accredited and printed once it has been exported, verified and approved (BGC Export).</p>

<p>This module can only be carried out when there is a way to communicate with Police systems. The police perform the corresponding verification of potential participants.</p> <p><i>Vehicle Accreditation:</i></p>			
<p>Vehicle Accreditation manages the registration of ORGANIZING COMMITTEE vehicles' data, the assignment of privileges and the provision of clearly visible accreditation badges:</p> <ul style="list-style-type: none"> ▶ Identifies all ORGANIZING COMMITTEE vehicles. Only entitled vehicles can enter in the different Venues or Zones. ▶ Produces an accreditation pass for every vehicle, which clearly identifies the vehicle and indicates the assigned access entitlements. <p>KEY FEATURES</p> <ul style="list-style-type: none"> ▶ Easy configuration of the Accreditation Business needs, defining Categories, Functions and Privileges and their representation in the badges with color, wording or icons ▶ Extensive vehicles' tracking, to search and maintain vehicles' data including the Vehicle Badge production history ▶ Robust and flexible implementation of the accreditation process ▶ Sophisticated production of badges: <ul style="list-style-type: none"> • Automatic printing of a barcode, codifying the vehicle badge id • Badges may be produced by massive processing or one-by-one ▶ Other features: 			

<ul style="list-style-type: none"> • Multi-language, provided in English by default can support any other language 			
<p><i>Guest Passes:</i></p> <p>Guest Passes provides the means to register and validate the requests, to manage the guest' security background check prior to the visit, and to print and issue the Guest Pass to the visitor.</p> <p>KEY FEATURES</p> <ul style="list-style-type: none"> ▶ Definition of passes ▶ Management of quotas (limit of guests) that each customer (Organizations such as National Committees, Sponsors, Media, Protocol Secretariat Office or Organizing Committee) can invite ▶ Management of valid dates ▶ Request management using Internet ▶ Integrated with Accreditation, Background check, and Access Control ▶ Printing guest passes <p><i>Access Control:</i></p> <p>The system allows a strict access control in real time. It is important for the Committee to define how it is to control access to certain privileges (zones, colors, catering, transportation, tribune, etc.), specific groups or specific actions. Our solution presents the following features to provide a flexible environment:</p> <ul style="list-style-type: none"> ▶ Access control to various venues. ▶ Access control Catering. ▶ Access control in-out volunteers ▶ Check-In / Check Out accommodations ▶ Hierarchical Control Access: The ability to 			

offer Access by levels to various sub-areas within one premise.

- ▶ Catering Control: The option to control the access to the restaurants.
- ▶ Vehicle Control Access: Access Control System for vehicles.
- ▶ VIP Access Control
- ▶ Access Control by sessions and dates
- ▶ Access Control for subscribers
- ▶ Entry and Exit Control
- ▶ System Access through User and Password
- ▶ Reports: Through real time codes: The System informs the Access Control System (PDA, Scanner, Turnstiles, etc.) of the cause for the entrance not to have been validated.
 - Duplicated Access
 - False Access
 - Defective Access
 - User Configurable Report Generation System: Number of access by door, by date, number of faulty accesses, etc.

The control can be carried out in two ways:

- ▶ Physical: one or more persons visually control the accreditation and according to the same privileges allow or deny access to a particular place or a service.
- ▶ Electronic: it is made with an external application to GMS-WEB and connected via WEB services. The privileges will be controlled through an electronic gun that 'reads' the accreditation and valid or not, access to them. This control will require gun, laptop-tablet or PDA and Internet connection. Data consumed

privileges (catering or uniforms) will be recorded in the database.

The electronic control requires a cost to consider both infrastructure (computer-gun-point internet each control point or PDA + wifi) and people (who perform control). In return, however, it facilitates the planning and control of other areas as feeding or uniforms helping to save costs in them.

The Access Control Solution will provide the following key benefits:

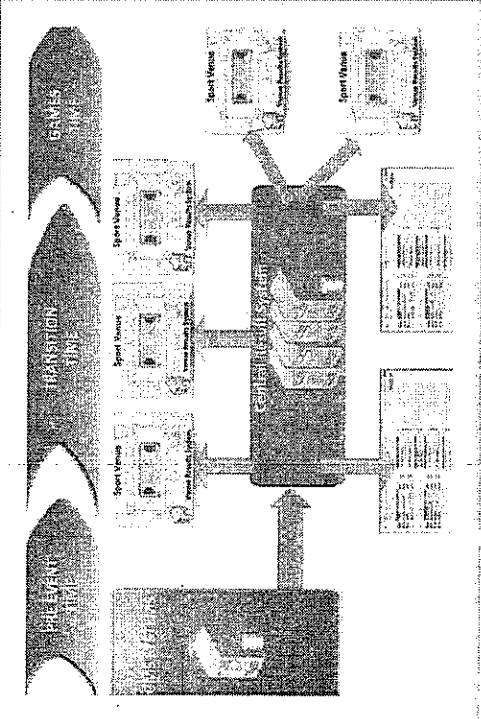
- ▶ Control unauthorized access to venues (and optionally to zones inside a venue) to non-valid Accreditation and Guest Passes through security checks
- ▶ Integrate GMS applications with ACS to enable real time access of critical information and to eliminate duplication of data entry.
- ▶ API that can be used by other software components to validate passes, which would allow easy integration with 3rd party validation systems (such as turnstiles or mobile applications) eventually provided by the ORGANIZING COMMITTEE.
- ▶ Apply the same high level of IT Security as other ORGANIZING COMMITTEE applications, to safeguard data integrity and to protect confidentiality.
- ▶ Enhance flexibility in the design and creation of customized reports through integration with Report Generation Module. RGM is part of GMS.
- ▶ Take advantage of the synergies provided by the solution in terms of rationalized architecture, which bring savings in hardware and software

<p>Given the nature of the event, it may be necessary to place various access controls according to the organization's need. There are, therefore, different distributions that the system will be able to control in real time:</p> <ul style="list-style-type: none"> <input type="checkbox"/> General Access <input type="checkbox"/> VIP Area Access <input type="checkbox"/> Restaurant Access <input type="checkbox"/> Vehicle/Parking Access <input type="checkbox"/> Athletes' Access <input type="checkbox"/> Staff Access <input type="checkbox"/> Athletes Village <input type="checkbox"/> Operation Centers 			
<p><i>Arrivals & Departures:</i></p> <p>The Arrivals & Departures module centralizes the information about the Event Family forecasted arrivals and departures, ensuring that the rest of departments, such as protocol, transportation and accommodation will manage the proper information and therefore they will be able to provide their service properly:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Registers schedule of arrivals & departures for individuals (from ACR) and groups, including Accommodation, Flight, Point of Arrival, Transport Type and Country <input type="checkbox"/> Generates Reports for the rest of departments to coordinate services <p>This application will be used by ORGANIZING COMMITTEE to have control over the arrival and departure information of all the accredited participants to the Events. This information is crucial to organize the transportation, meals,</p>			

<p>hotel accommodation, and village accommodation and services. The application relates to Accreditations from which this module receives the initial information forecast of participants attending the games. This information is integrated with the arrival and departure module which maintains details about the travel itinerary.</p> <p>KEY FEATURES</p> <ul style="list-style-type: none"> ▶ Extensive use of ADS to manage the services for Responsible Organizations like NOCs, IFs, or International Bodies, Medias, Broadcasters, VIP... ▶ Total flexibility for the Event Family service department to register Responsible Organization's needs: <ul style="list-style-type: none"> • Individuals already registered in ACR or Groups • Flights schedule of arrivals and departures ▶ Internet-enabled access removing thus the need for paperwork (paper forms) ▶ Easy utilization for Protocol, Transportation and Accommodation departments to generate reports from ADS and ensure a proper coordination on the services provided <p>OTHER FEATURES</p> <ul style="list-style-type: none"> ▶ Multi-language, provided in English by default can support any other language ▶ Fully integrated with ACR, personal information <p>Games Results System</p> <p>The Games Results Systems provides data integration and a strategy for the information generated on real time at the venues.</p>		

<p>Games Results Systems gets initial Competition data from GMS downloaded from Accreditation and Sports Entries modules. During the event, the information is obtained from the Timing and Scoring elements; these results are managed using the On-Venue Results systems, which send the information to the Real-Time Displays Systems, TV Graphics, Commentator Information Systems, to Scoreboards and to the Information Diffusion systems. GRS also provides official reports whenever they are required by officials and Technical Delegates.</p> <p>Games Results Systems comprises several systems and provides full results services, including all the necessary systems for running a multi-sport world-class event. The GRS (Games Results System) will include full system functionalities to support all the disciplines.</p> <p>Games Results Systems play a key role for the success of one of the major business processes of the event, which is to run the sports competition in the venue. It covers the development of the start lists, draws and entry lists, through to capture of the scores, marks or times, ranking calculation and the delivery of the information to various clients such as Commentators, Press, TV, Scoreboards, Press Agencies, etc.</p>		
<p>Games Results Systems must have the following features:</p> <ul style="list-style-type: none"> • The results applications must have been developed following the Olympics Requirements (ORIS) and meet the Games requirements. • All printouts, TV templates, RTDS and Commentator Information System (CIS) screens follow the rules specified by ORIS must be met by the applications <input checked="" type="checkbox"/> The Systems must be integrated: <ul style="list-style-type: none"> • The Central Results System must integrate with all the Venue Results Applications 		

<ul style="list-style-type: none"> • The TV Graphics character generator must be fully integrated with the applications. • GRS can integrate with any kind of Timing and Scoring devices ▶ Modular: <ul style="list-style-type: none"> • Only the required modules will be installed • New services requirements imply the installation of additional modules and automatically the level of services is increased ▶ Advanced Technology • Object Oriented Programming (UML Technology) • Best Business Practices • Standard Products • Wireless and Latest technologies ▶ Adaptable • Able to support different kind of competitions also very useful for last minute changes, test events and training <p>Games Results Systems must be composed of:</p> <ul style="list-style-type: none"> ▶ CRS: Central Results System ▶ VRS: Venue Results System ▶ TVG: TV Graphics System ▶ CIS: Commentator Information Systems ▶ RTDS: Real Time Display System ▶ RPDS: Print Distribution 		
<p>Central Results System</p> <p>CRS will manage all the information that is generated at early stages of the event and will also provide initial data to all the venues; once the competition is started, it will collect and process all the information coming from them.</p> <p>CRS will provide to event managers and general users, an overall view of the competition course and its detailed</p>		

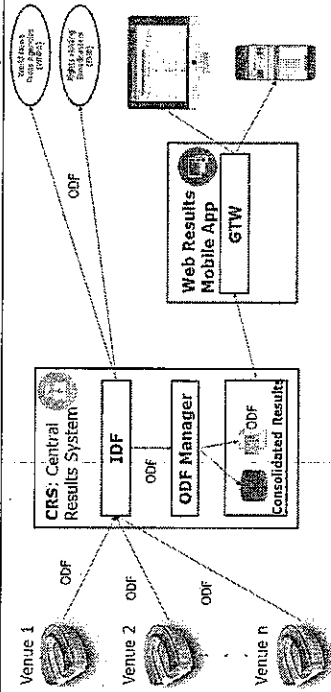
		<p>information.</p> <p>Before the event starts, CRS will be fed with GMS information like venue details, participants personal information, and general schedule of the competition.</p> <p>Also, general data distributions and publishing will take place. This process will involve medals information, previous records publishing and detailed sport competition information distribution.</p> <p>During Transition Time, this information is published and part of it is sent to the sport venue systems to initialize venue systems.</p> <p>Once a competition has started at the venue, CRS will receive updated information from the venues, distributing it to the general users and managers.</p>
		
		<p>KEY FEATURES</p> <p>Centralizing the results is one of the most important</p>

duties of the Results System. This task consists in gathering all the competition results taking place in each venue and sending the information live to the different receivers.

This means the results for every sport must be presented in the same format, with the same look and feel, at the correct time and to the same place. To achieve this, it is very important for the integration and connectivity to be effective between the venues and the Central Event's office always.

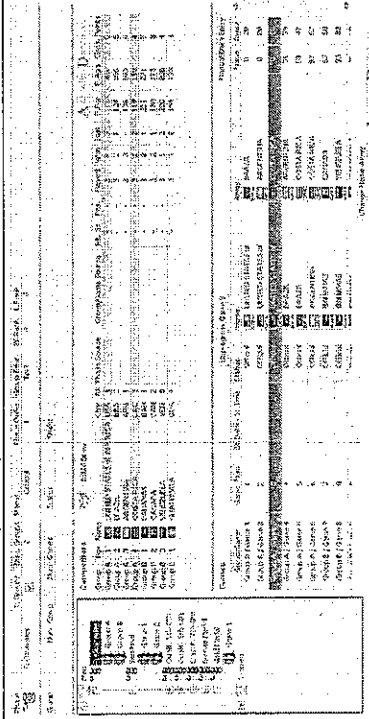
The CRS comprises:

- ▶ Competition Schedule and Results initialization and training schedule setting
- ▶ Competition Information: venues official name, total competition days, sport disciplinary, number of competitions and detailed competition information.
- ▶ Participants: Management of participation athletes' information such as personal information, participating sports, previous records.
- ▶ Searching participants in GMS
- ▶ Management of participant's entry information
- ▶ Management of all types of reports made during competition

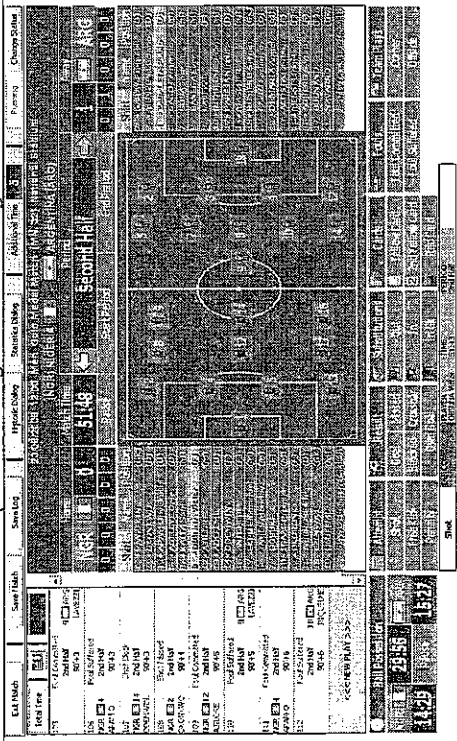


<p>Venue Results System</p> <p>Venue Results System or On Venue Results applications are made up of a series of components designed to configure and manage each of the aspects related to the sports competition, providing interfaces to the applications for timing and measurement devices.</p> <p>These main components are:</p> <ul style="list-style-type: none"> ▶ Event Manager: The Event Manager controls the functions required to configure events, register participants, create competition timetables, calculate records and medals, and generate printed reports. ▶ Data Entry: The Data Entry application manages results data entry during the progress of the competition <p>There is a Venue Results System for each sport. The VRS system will be installed at the venues and will manage the sport competition.</p> <p>The venue is connected to the Central Results System (CRS) via a network. From the CRS the information is distributed to all the different clients: TV, Print Distribution, Intranet, etc.</p>		
<p>KEY FEATURES</p> <ul style="list-style-type: none"> ▶ Event management and control ▶ Results calculation and seeding ▶ Define the overall competition progression and qualification rules to each round including the number of rounds, number of competitors per group, number of qualifiers per round, etc. according to the rules and regulations of each sport discipline ▶ Define the medal assignment rule of the competition ▶ Monitor competition progress in a venue ▶ Consolidate results generated in a venue ▶ Generate reports ▶ Interface with the timing, scoring and judging equipment 		

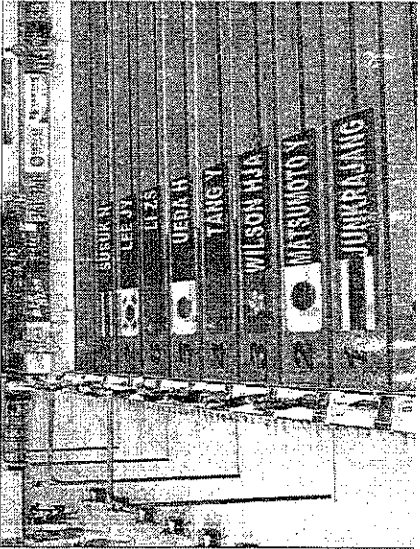
- ▶ Interface with scoreboards.
- ▶ Provide TV Graphics data feed to the character generator
- ▶ Consolidate and distribute information within a venue
- ▶ Report generation: All reports are generated in both hard and soft copy. The soft copy of reports supports Acrobat PDF format
- ▶ Provide a user interface for manual data entry as an alternative way to input the results



Competition Progression Management



Results Management module

<p>TV Graphics and Video Character Generation</p> <p>TV Graphics is a tool for creating graphic elements and to display them to be inserted into a live TV signal.</p> <p>Displayed information can be competition, intermediate or consolidated data (such as schedules, start lists, statistics reports, result lists, medallists, etc.), timing, scoring, animation effects, or other data such as weather conditions.</p> <p>TVG works producing graphics based on previous designed templates and mapping them with data obtained from Timing/Scoring System (for real-time data) or Local Results System. The results are offered to TV broadcasters to be mixed with the TV signal.</p> <p>Templates will be also provided for the TV-Graphics design, based on the Look and Feel of the Games, to be agreed with the host broadcaster.</p>		
		
<p>KEY FEATURES</p> <ul style="list-style-type: none"> ▶ Every element that appears on screen is an independent entity that has its own attributes. These attributes can change on a TV field by field basis 		

<p>(dynamic movements)</p> <ul style="list-style-type: none"> ▶ 2D or 3D effects: in TVG the 2D objects are manipulated in the 3D space before they are presented on screen. The effect parameters can be changed in a field by field basis, which supports sophisticated dynamics ▶ Top quality Text: proprietary text renders to get the most accurate antialiasing text ▶ Sub pixel object positioning, full screen cell animations and Message Transition effects ▶ Multiple Time Source: TVG can handle an internal RTC, 4 internal timers and 4 external time sources sent to it by a serial line ▶ Multi-template and Multi-page messages ▶ 2D data dependent object display offsets and alternative fonts ▶ Up to 4 smooth asynchronous Crawls or Rolls ▶ Real Time Objects Drawing ▶ Template Compatible Group ▶ Interface to simple format external data (.csv files) ▶ Messages Data Updates, it is possible to configure every message in AgePlus to update the message when new data is received while it is in PVW, in PGM or in any of them ▶ Powerful Template Composer ▶ TV systems template software conversion ▶ Provides intermediate times, rankings, results, statistics and other relevant information with on-site graphics and character generation which are then channelled to broadcasting ▶ Allows manual data entry as a workaround operational procedure 		
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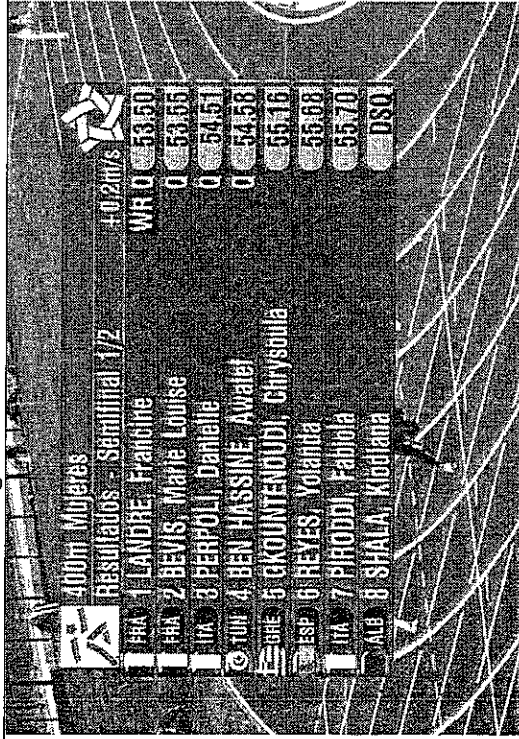
			<p>System overview</p> <p>TV Graphics is a tool for creating graphic elements and display them inserted into a live TV signal. TVG works producing graphics based on previous designed templates and mapping them with data obtained from Timing & Scoring System (T&S) and On Venue Results System (OVR). The solution includes:</p> <ul style="list-style-type: none"> ▶ Character Generator (CG) must be used for providing the TV feeds, which can generate graphics for both High Definition and Standard Definition formats. ▶ Templates needed for the TVG design, based on the Look & Feel of the Games, which will be agreed with the host broadcaster. <p>In the IBC there is also the need of having some graphics services for summaries, interviews and special programs. Graphics equipment, selected for the event, is also able to:</p> <ul style="list-style-type: none"> ▶ Work as a standard Video Character Generator (VCG). ▶ Re-use the data of already finished events within these events.
			<p>Information</p> <p>Displayed information can be competition or non-competition, simple or consolidated. It can include scores, schedules, start and result lists and medalists, but also weather conditions, statistics and even animations effects.</p>
			<p><i>Key Features and advantages</i></p> <ul style="list-style-type: none"> ▶ Every element that appears on screen is an independent entity that has its own attributes. These attributes can change on a TV field by field basis (dynamic movements) ▶ 2D or 3D effects: in TVG the 2D objects are manipulated in the 3D space before they are presented on screen. The effect parameters can be

<p>changed in a field by field basis, which supports sophisticated dynamics</p> <ul style="list-style-type: none"> ▶ Top quality text: proprietary text renders to get the most accurate antialiasing text ▶ Sub pixel object positioning, full screen cell animations and message transition effects ▶ Multiple Time Source: TVG can handle an internal RTC, 4 internal timers and 4 external time sources sent to it by a serial line ▶ Multi-template and multi-page messages ▶ 2D data dependent object display offsets and alternative fonts ▶ Up to 4 smooth asynchronous Crawls or Rolls ▶ Real Time Objects Drawing ▶ Interface to simple format external data (.csv files) ▶ Messages Data Updates: it is possible to update the message when new data is received while it is in Preview (PVW) or in Program (PGM) mode ▶ Powerful Template Composer ▶ Provides intermediate times, rankings, results, statistics and other relevant information with on-site graphics and character generation which are then channeled to broadcasting ▶ Allows manual data entry as a workaround operational procedure 		
<p>Operation</p> <p>OVR provides the data to all the potential sport data customers, included TV, and the transmission is done in less than one second. This low latency allows a TVG operator to recall the right TV screen at the right time and offer it to TV broadcasters to be mixed with their TV signal when required.</p>		
<p>Graphics Design</p> <p>The graphic style to be used as event identification must reflect the personality of the people and the land that</p>		

hosts. The graphic style is composed at least of: Games logo, sports logos, team flags or logos, backgrounds, letter typefaces and layouts for the different TV screens. The TV layout refers not only to the screen positioning of the graphics elements but also to the temporal composition of those screens. Other elements affect as well the graphic design of the Games including:

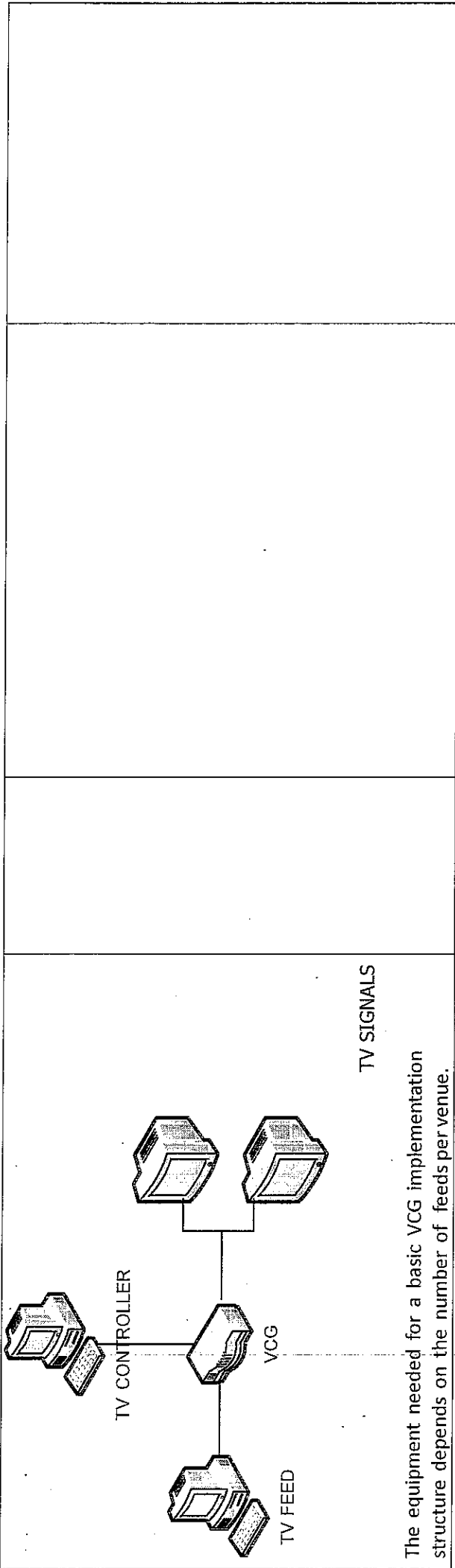
- ▶ The participation of multiple countries, with different languages that might require some specific fine-tuning

- ▶ Different TV formats: Due to the importance of world-class sport events, it is a common practice to record and narrow cast it in future TV formats; event sport graphics should also be available in these formats, either automatically generated from the 4:3 masters or redesigned from scratch.



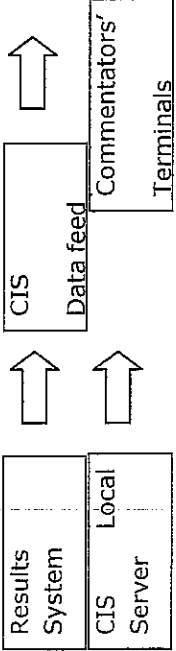
Video Character Generator

<p>Basic Concept</p> <p>Video Character Generator is a graphics interface specialized in live presentation of animated messages composed by text, graphics, cell animations, etc. in a professional TV environment by using data from the computer networks or manually entered by an operator.</p> <p>The VCG must have full independence between the data and its presentation on TV. This means that OVR produces data according to its sport model, and TV shows it on its own way. No particular TV needs have to be included in the Games Results Systems data.</p> <p>This approach has the advantage of a very simple coordination between TV and the GRS; only the data transfer protocol and the sports data models must be agreed.</p> <p>Character Generator</p> <p>The GC of TV Graphics is a tool for creating and displaying graphic elements to be later inserted into a live TV signal. The CG is the key element of the VCG.</p> <p>Equipment</p>		
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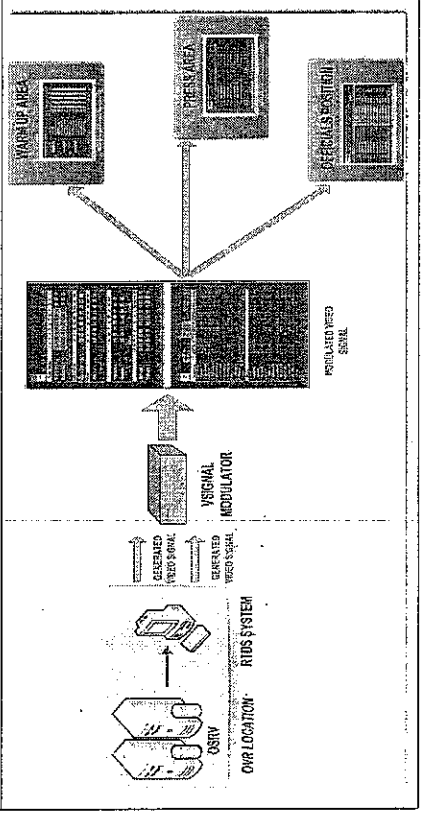


The equipment needed for a basic VCG implementation structure depends on the number of feeds per venue.

			<p><i>Live Feed</i></p> <p>In sports requiring live generation of graphics, the requirements for each TV Feed include:</p> <ul style="list-style-type: none"> ▶ Device (models with mono and dual entries can be used) ▶ Controller (provides its own set of controllers, but a properly configured laptop can also be used for this task) ▶ In case a connection to an official clock is required, an additional VCG device will be required ▶ 2 Monitors to validate de Preview and Program generated images. Preview allows the TVG operator to see the image generated before submitting it to the broadcaster and make any required adjustments
			<p><i>Highlights</i></p> <p>Highlights can be generated at each sport venue, or remotely from a non-competition venue like the IBC. Theoretically, a single VCG and controller with all the required sport templates can be connected to the GRS, and be operated to generate all the highlights. However, in order to reduce production times, up to 5 VCG devices and controllers can be deployed at the IBC.</p>
			<p><i>Spare policy</i></p> <p>Include general spare policy provision (10% of spare parts) VCG devices. Must be stored in the venues with highest activity levels if storage space is available (i.e., athletics venue).</p>
			<p><i>Commentator Information System</i></p> <p>The Commentator Information System provides sports commentators with the information they need to carry out their jobs.</p> <p>The information offered (competitor lists, results, statistics, etc.) is for the day on which it is being viewed, and the data for competitions currently in progress will be updated in real time.</p>

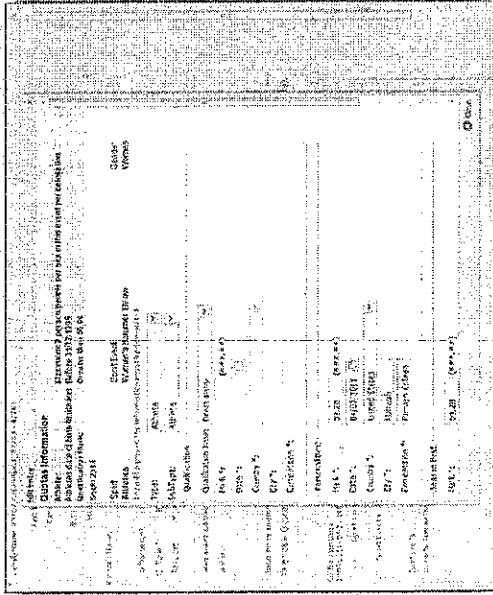
<p>The CIS is made up of a set of applications that will be described in this document:</p> <ul style="list-style-type: none"> ▶ Data feed ▶ CIS Local Server ▶ Commentators' Terminals ▶ CIS Global Server <p>Internally, the CIS is based on the data coming from the Results System. The Data feed carries out a translation of these data so that the information can be displayed on the screens that a CIS Local Server makes available to the commentators at their commentary terminals.</p>		
<p>Graphically, the applications could be shown as follows:</p>  <pre> graph LR RS[Results System] --> CIS[CIS] CIS --> CLS[CIS Local Server] CLS --> DF[Data feed] DF --> CT[Commentators' Terminals] </pre>		
<p>When the system works with multiple sports, another component is added: the CIS Global Server. The CIS Global Server joins all of the various local servers, making each one aware of the information contained in the others.</p> <p>The following is a schematic representation of how the CIS Global Server works:</p>		

		<pre> graph TD RS1[Results System 1] --> CDF1[CIS Data feed 1] CDF1 --> LS1[Local Server 1] LS1 <--> CT1[Commentators' Terminals] LS1 --> GCS[CIS Global Server] GCS --> LS2[Local Server 2] GCS --> CDF2[CIS Data feed 2] CDF2 --> RS2[Results System 2] LS2 <--> CT2[Commentators' Terminals] </pre>
		<p>Real Time Display System</p> <p>Real Time Display System can be used as an alternative to CIS. It is a video feed based on defined templates that shows real time competition status and rankings.</p> <p>It is used on sports where dispatching of Real Time Information is required at places for the competition working out.</p>

					<p>This can be mainly athletes warm up areas and referees' positions where RTDS is used to manage the whole competition.</p> <p>Distribution of the information is based on the same architecture as the Commentator Information System (CIS) but final presentation of it is done on a modulated video signal so it can be encapsulated on a multi-channel system which can be selected by the user.</p> 
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Additionally, the GRS must retrieve data regarding participants and competition schedule that are part of the functional modules provided by our solution. The main competition data is obtained and managed from the following modules:

The Entries department ensures that all athletes competing in the event have qualified according to the specific sport's rules and the quotas set. To do so, the Entries department manages the athletes' inscriptions and qualification data, gathering and coordinating information among the International Federations (IF) and National Olympic Committees (NOC).



The Sport Entries and Qualification system (SEQ) provides a unified management of all the athletes' data related to inscriptions to event and competition:

- ▶ SEQ gathers competition information on all athletes who might participate in the Event;
- Captures and tracks the athletes' qualification marks.
- Captures Sport Entries information.

<p><input checked="" type="checkbox"/> It provides confirmation to ACR.</p> <p><input checked="" type="checkbox"/> It provides all the necessary information for Results.</p>		
<p>KEY FEATURES</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Total flexibility for sport managers to configure: Entry Forms for each discipline and type: individuals, teams and pairs • Quotas per disciplines and per NOC: per individuals, teams and gender • Number of inscriptions per discipline and type: individuals and slots • Qualification criteria per discipline and event if necessary <input checked="" type="checkbox"/> Fully available to external organizations: <input checked="" type="checkbox"/> Each NOC may register the inscriptions of Participants and Teams and Horses through Internet to events (while their registration is done in ECR). 		
<p>Other GRS systems</p>		
<p>Competition Scheduling</p> <p>The Competition Scheduling System allows the ORGANIZING COMMITTEE team to manage the full competition details for the event, from a very high-level calendar to the low-level details, including start and end time for each individual event.</p> <p>The system divides the calendars by sport, allowing different sports to evolve individually while providing a consolidated view of the overall competition. Each calendar is versioned to allow draft and published versions as well as seeing the whole story of the evolution of the.</p> <p>KEY FEATURES</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> SCH supports internal (ORGANIZING COMMITTEE) and external (Media, Broadcasters, Federations, etc.) access to the system to view the calendar. 		

	<ul style="list-style-type: none"> ▶ Exports of data to Timing and Scoring systems. ▶ Calendar versioning. ▶ Competition sessions management. 		
	<p>Timing, Scoring and Results systems</p>		
	<p>The Timing and Scoring systems and devices are used to measure time and distances and to score points and victories for the athletes during their performance in the competition.</p> <p>As part of a Timing and Scoring solution, bidder must also provide devices that are not used specifically to measure or record, but that provide important information or support to run the competition. Some of these devices are concentration clocks, countdown clocks, wind measurement devices and some sport specific scoreboards.</p>		
	<p>Timing and Scoring as part of Results Systems</p>		
	<p>The Timing and Scoring systems and devices are a key part of the Results Systems. Once the results systems are ready and configured, the specific measurements and scores come from Timing and Scoring. This is normally done on-line, which means that these devices are connected to the Results Systems Data Entries.</p>		
	<p>It is important to note that all these devices must be installed and managed by experts, because a little mistake can lead into a big error. One cm or one millisecond can lead us into a big mistake, like a winner that is not, or a record that is not.</p>		
	<p>The connection of these devices with the Results Systems is either done via the network or connecting them directly to the data entry computer with a specific cable.</p>		

<p>Some of these timing devices also feed the TV Graphics production directly as the clock must be displayed all the time, so in this case the clock comes directly from the Timing and Scoring Device and not from the Results Systems.</p>		
<p>Scoreboards Scoreboards and displays are used to provide the competition information live at the venues. The Results System includes various applications that enable the presentation of the competition information live. These applications work through the results competition network and will have all the information available to be presented live to the audience. Different kinds of scoreboards must be feed to give complete outputs for each sport. The models and services depend on the sport.</p>		
<p>Equipment for Timing, Scoring and Scoreboard Each sport will use the timing and scoring devices to follow sport regulations and procedures. Different companies provide several solutions.</p>		
<p>Timing The most common timing devices are:</p> <ul style="list-style-type: none"> • Cameras for sports such as Athletics, Rowing or Canoeing • Touchpads for Swimming • Chronometers and countdown clocks 		
<p>Scoring The most common equipment is:</p> <ul style="list-style-type: none"> • Clicker devices for scoring Taekwondo, Judo or Karate • Judge score receptors for inserting the scores in sports like Diving, Gymnastics or Athletics • Distance measurement devices <p>Scoreboards and Displays The boards needed are usually chosen depending on:</p> <ul style="list-style-type: none"> • Quantity and type of boards needed for the correct running 		

<p>of the competition</p> <ul style="list-style-type: none"> • Equipment already available at the venue • Popularity of the sport in the competition area <p>Optimization of the organizer's budget</p> <p>Types of displays and scoreboards:</p> <ul style="list-style-type: none"> • Specific displays • Indoor displays • Public Scoreboard • Video scoreboard 			
<p>Results System: Data Input and Output</p> <p>The Results System receives data input from devices which provide the essential Timing, Scoring and statistics for the competition. The Result System is completely integrated and interfaces with the Timing and Scoring systems as well as with the Data Entry PCs for the data exchange to work correctly.</p> <p>Once the Results System receives the data it automatically produces all the required outputs such as the Scoreboard feed.</p> <p>Games Results Distribution System</p>			
<p>RDS (or IDS) is used for gathering athlete information from GMS, managing the events schedule, obtaining results from the QVR systems and then, publishing consolidated information in the Games official website and feeding with data any authorized subscriber.</p> <p>The solution must include:</p> <ul style="list-style-type: none"> ▢ Games Data Feed: allows distributing the results feed to external subscribers ▢ Games Time Web Results: responsible for processing the information received from each of the venues and for generating and sending pages to the official web site ▢ Print Distribution: assists the distribution of results on paper to the competition venues and IBC/MPC. 			

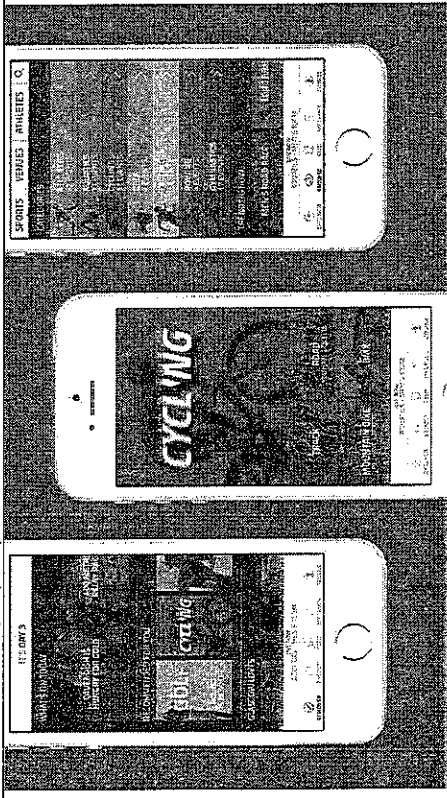
<p>The RDS applications will have the Look & Feel defined by ORGANIZING COMMITTEE. Additionally, the bidder must generate and maintain all interface documents with any customer (i.e. news agencies) interested in receiving the feed during the Games. That includes common codes, sport specific codes, global definition and sport by sport specific documents.</p>			
<p>INFO2019</p>			
<p>The bidder must provide the Games Intranet (INFO); it is a platform/browser independent, secure, flexible and user-friendly web-based application.</p>			

<p><i>Key features and advantages</i></p> <ul style="list-style-type: none"> ▶ All grids in the system are filterable and sortable ▶ It allows saved view preferences per user ▶ No plugins (Java, ActiveX) are needed for browser operations ▶ Works as a Sports News website, including the support of text, photo and video, where it's also possible to categorize news items such as Flash Quotes, Media Communications, News, etc.; users can follow up the event results, competition schedules, etc. ▶ Users can change the layout of pages ▶ Alerts and Preferences: The system provides user preferences and alerts. Users can log in to load their personal settings and set specific sorts of alerts (SMS/email alerts, preferred NOC, my schedules) and apply filters to schedule so they won't need to apply those filters each time they log in the website ▶ Multi Language: The system supports multiple languages. Baseline is English with an option to enable other languages. All labels, codes and data could be translated using back-office applications. ▶ Responsive Web Design: Thanks to its responsive web design, it's possible to use the website on any kind of device with different screen size and resolution. ▶ Integration with other content feeds: It can be integrated with different content such as twitter feeds, images, video etc. <p>The bidder must also provide Games Time Web Results service (GTW), to publish enriched results through the Games official website. This module allows for a set of HTML blocks, which can be easily integrated inside each of the sports pages of the Games official website. The HTML blocks generated are updated every time a new message with information for such page is received and processed. Information categories that can be provided include: Schedules with Start List and Results, Live Results, Medals, Records,</p>		

<p>Profiles for Athletes, Teams and NOCs.</p>		
<p><i>Key features and advantages</i></p> <ul style="list-style-type: none"> ▶ All the tables include several selections, sort criteria and filtering options depending on where they are used ▶ All the categories of information will be specifically designed for the sports sections on the official website of the Games. The Look & Feel provided by ORGANIZING COMMITTEE ORGANIZING COMMITTEE will be implemented in the contents. ▶ There will be a naming convention, agreed between both parties, for all the contents <p>The bidder is responsible of the definition of the details of the information that will be provided in each of the tables.</p>		
<p>Internet Interface System</p> <p>Through the Games Time Web Results service (GTW), the bidder must publish enriched results to general audience in the Internet through the Official website.</p>		
<p>Any page available on the Sports Section of the Official website of the Games will have some contents managed and generated by the CMS of the Official website like News, Photos, Videos, General Sport, Venue information and other contents generated by Web Results like Schedules, Live Results, Reports Results, Start lists, Medals, Records and profiles for Athletes, Teams and NOCs.</p>		
<p>The following list of categories of information and the quantity of different contents will be provided by Web Results:</p> <ul style="list-style-type: none"> ▶ Schedules with Start List and Results ▶ Live Results ▶ Medals ▶ Records ▶ Profiles for Athletes, Teams and NOCs 		

<p>KEY FEATURES</p> <ul style="list-style-type: none"> ▶ A subset of those tables with less information will be provided for Mobile. ▶ All the tables will include several selection and sort criteria and filtering options depending on where it is used. ▶ All the categories of information in Web Results will be specifically designed for the section Sports on the Official website of the Games. ▶ The Look & Feel provided by ORGANIZING COMMITTEE will be implemented in the contents. These are the navigation specifications of the Web Results Contents: ▶ There will be a naming convention, agreed between both parties, for all the pages generate by the CMS, related to the Sports Section of the Official website of the Games. ▶ There will be a naming convention, agreed between both parties, for all the contents generated by Web Results. ▶ Web Results contents will be embedded inside specific pages generate by the CMS for the Sports Section of the Official website of the Games. ▶ The contents generated by Web Results will include links to the Sports Section of the Official website of the Games pages generate by the CMS. <p>The bidder is responsible of the definition of the details of the information that will be provided in each of the tables.</p>			
<p>Mobile Information System</p> <p>GIW will be prepared to include the information in responsive designs providing the results across multiple platforms.</p> <p>The bidder will work with ORGANIZING COMMITTEE in fine tuning</p>			

the designs and provide experience to come up with a suitable solution to display key information for mobile users.



Games Support System

The structure and main features of the GSS solution must include:

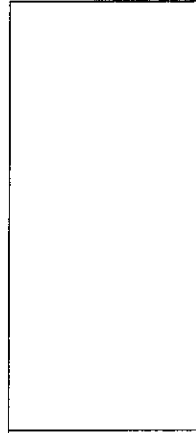

ITCC monitoring

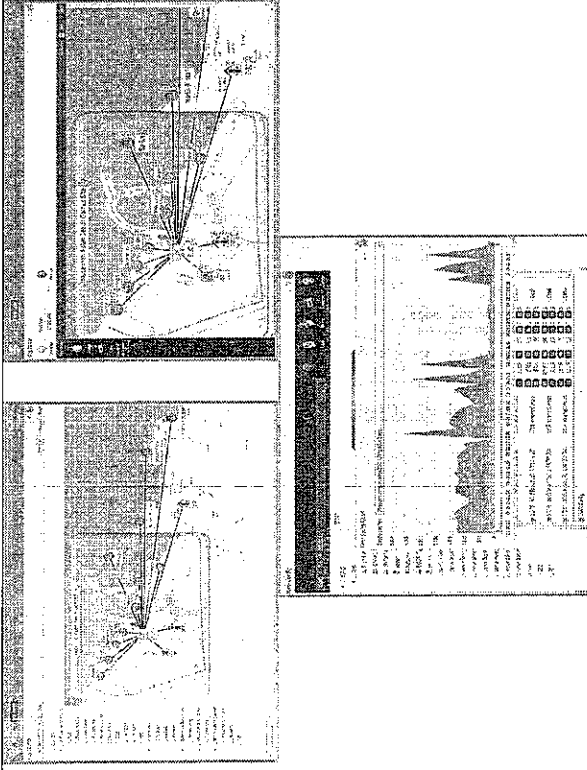
- Network status monitoring and management
- Server and security status monitoring and management
- System Performance monitoring and modification management
- Helpdesk score status monitoring
- CRS venue status monitoring and management for game events support
- RPDS venue status monitoring and management
- Dashboard configuration for integrated status monitoring
- Other system monitoring including DBMS, etc

Help Desk functionalities

- Issue registration and representatives' assignment
- Issue condition report to managers
- User authority management and query range setting
- Issue process status report in document format via DB
- Search by types of issues

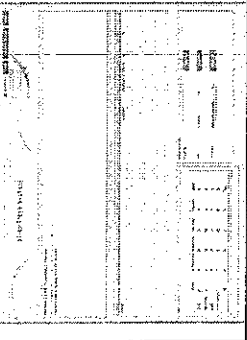
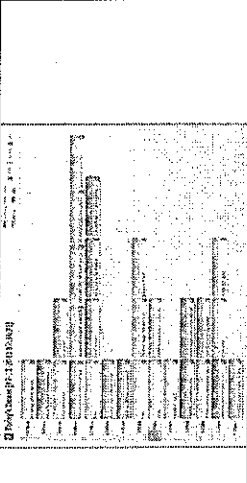
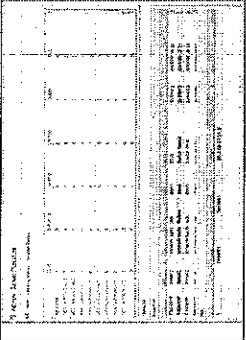
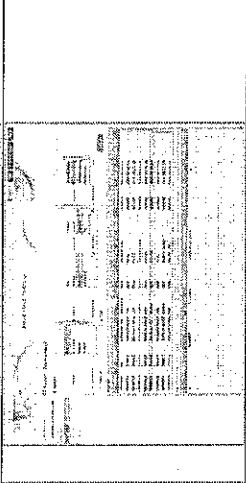
<p>Asset code management, Remote PC management</p> <p>▶ Deploy Management System Management of IT equipment registration by types and features, and environment setting management by equipment piece Buying and leasing history management Location management for equipment installation, equipment deployment management Types of each location, categories, date, installation schedule by quantity Import-Export Workers information, Acquirer information Features that compares installed and planned equipment Equipment withdrawal plan schedule management</p> <p>▶ Enterprise Security Management Collected from the center of the various security events occurring in the security system Early identification of infringement types through regular monitoring of security events and correlation analysis between events</p> <p>Some of the solution highlights are:</p> <ul style="list-style-type: none"> ▶ Sport specialized system ▶ Integrated ITCC monitoring system that manages integrated monitoring of sport events at venues ▶ Score status monitoring on HDS of ITCC ▶ Receipt status monitoring on screen ▶ Venue and non-venue equipment deployment/withdrawal management 		
<p>ITCC monitoring solution</p>		

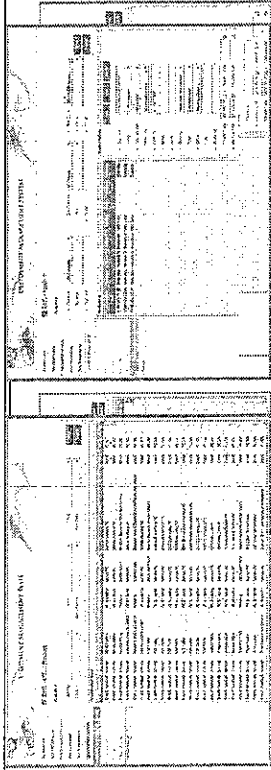
 <p>Standard Protocol - TCP, IP, UDP, FTP, SNMP, ICMP, SMTP IT Equipment Info</p>			
 <p>1. Schedule 2. Ready 3. Running 4. Us - Official 5. Offidel</p> <p>Network Server Security PC</p>			
<p>Network management</p> <p>Network Traffic Surveillance (Packet rate, Error Rate, Discard Rate)</p> <p>Network Equipment Link and Error Detection by ports</p> <p>Alarm functions by critical measure compositions (CPU, Memory, Network I/O)</p> <ul style="list-style-type: none"> ▶ Server management Server resource surveillance Resource surveillance by process (PID, CPU, Memory) Alarm functions by critical measure compositions (CPU, Memory, Network I/O) ▶ Security control Server and Network equipment event log acquisition Network traffic analysis Network protocol analysis (TCP, UDP, FTP, ICMP, SMTP) ▶ Dashboard One intuitive screen Group management by location and equipment Real-time monitoring status of competition events at venues ▶ Reporting 			



Help Desk

- ▶ Problem management
 - Problem registration: type, severity, location and status
 - Open to on-site and remote staff and technical managers
 - IT specific
- ▶ Advanced Search
 - Filtering by problem type
 - Link to problem knowledge base results based on similar searches
- ▶ Notification
 - Notification by type and severity when problem occurs
 - Activated rapid problem-solving process
 - Notification through Email and SMS
- ▶ Deploy Management system interface
- ▶ Reporting

					
<p>Deployment management system</p> <p>Deployment management</p> <ul style="list-style-type: none"> • Establishing IT asset request by FAs • Relation setting between FAs and responsible areas • Calculating quantity and required equipment by sections • Registration and tracking of equipment ▶ Operation <ul style="list-style-type: none"> • Registration, delivery, deployment, return, movement and disposal of DMS operation by step • Give management code to IT assets delivered into warehouse • All IT assets are managed by DMS • Tracking management of individual assets • Reporting (request status, equipment deployment...) 					



Games specific equipment

Timing & scoring equipment

The bidder must provide the Timing and Scoring equipment in as part of the service (rent option). The details and number of parts per each type of equipment will be ultimately determined during the initial phase of the project, after the venues and installed equipment has been assessed.

All the equipment to be provided for the Games must meet the competition criteria of ORGANIZING COMMITTEE and the Federations involved in the event.

The connection of these devices with the Results Systems is either done via the network or connecting them directly to the data entry computer with a specific cable.

Some of these timing devices also feed the TV graphics production directly as the clock has to be displayed all the time, so in this case the clock comes directly from the Timing and Scoring Device and not from the Results Systems.

List of equipment can be found in the appendixes of the TOR.				
<p>Spares</p> <p>The bidder must provide spare parts for the critical equipment to operate the competition. On top of that our policy is to provide at least 10% of spare parts for general equipment.</p>				
<p>Scoreboard operation</p> <p>As part of the operation services, the bidder must provide operation of the competition scoreboards. The information presented must follow standard competition formats for the different sports.</p> <p>Regarding the operation, in some instances, volunteers from the OC to assist in the operation and check the information displayed can be utilized.</p> <p>The bidder must provide the required training for volunteers as needed before the competition starts. Ideally, some volunteers from test events can be re-assigned to this task during the Games.</p>				
TV Graphics Generators				
<p>The bidder must provide TV Graphics generators as per the description of the TV Graphics and Codes Generator service.</p>				
<p>Equipment Management and Handling</p> <p>The bidder will manage the shipping costs to and from Manila.</p>				
<p>The bidder is in charge of installing the equipment and operating it, as well as the dismantling and decommission of installed devices. The procedures to accept install and decommission of the service and the location places and internal logistics will be negotiated with ORGANIZING COMMITTEE as more details on the venues, competition schedule and sport necessities are obtained.</p>				

SEAGIS Services	Implementation services (Pre-Games)	<p>Project management</p> <p>The SEA Games is a complex multi-sport event that requires dedicated senior management efforts. The main activities included in the service:</p> <p>▶ Project management: The bidder must plan and follow-up all the needed activities to be performed during the implementation phase following our methodologies for project management, risk evaluation and quality assurance, as well as ensure that our development frameworks and testing procedures are followed. The bidder must have project managers who are experienced experts and used to coordinate local and remote teams and to interface with OC responsible staff members to provide a clear overview of the project status and evolution.</p> <p>▶ PMO and logistics: The bidder will manage the internal logistics of the project through a Project Management Office whose staff will oversee managing all personnel and equipment logistics associated with the project.</p> <p>Integration and Implementation services</p> <p>Requirements gathering</p> <p>After the main requirements for the games have been exposed in the RFP document and once the main project structures and governance procedures have been agreed and set up, the bidder needs to conduct initial requirement gathering phase to specify to the development and implementation teams the features which require specific customizations and further developments. The tasks to be performed during this phase include:</p> <p>▶ Workshops with ORGANIZING COMMITTEE and third</p>	
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			<p>parties to introduce and provide functional and technical specifications of the systems and a general overview of the project, pre-games activities and operation.</p> <p>▶ Sport information requirements gathering to agree on the types of data and information to be processed during the competition.</p> <p>▶ Site visits to review technical and operational constraints including, physical space for results rooms on venues, accessibility to results areas, visibility of FOP form OVR rooms, physical distribution of competition areas and scoreboards.</p>
			<p>Design and customization services</p> <p>Design and architecture definition: Once the services and modules required have been finally decided by ORGANIZING COMMITTEE and the details of competition (final number of venues and field of play, sport schedules, etc.) are being set, the bidder must work closely with ORGANIZING COMMITTEE to define the best architecture based on their knowhow and the necessities of the Games.</p> <p>▶ Development and customization: Some customizations will be required to adapt them to the specific needs of ORGANIZING COMMITTEE, especially those which interface with other systems or which require a specific look and feel adapted to the Games. The bidder must be composed of sport experts dedicated to the product portfolio and will be managed on software development centers in close relation with the onsite management team which will interface with ORGANIZING COMMITTEE.</p> <p>▶ Infrastructure management: The development, testing, pre-production and production environments for the applications have to be configured and deployed and maintained. The bidder will manage the implementation efforts, security overview of the environments, including patch management and maintenance of the environments for the whole project</p>

period.

Testing

The bidder must conduct thorough testing cycles during the development phase, which are complemented with the test events and rehearsals to ensure that the operation will be as smooth as possible. They must have dedicated testing teams and a test lab where they can simulate competition events. They must also perform security and penetration test on the products and infrastructures and performance tests on their environments according to the expected volumes of data and users for the Games.

Pre-delivery Testing

As solution provider, the bidder must be responsible for testing the applications prior to the delivery to the ORGANIZING COMMITTEE to confirm that the applications perform as expected according to the requirements. Pre-delivery testing comprises the following phases:

- ▶ Module test
- ▶ Functional test
- ▶ Non-Functional test
- ▶ Validation test

Regression Testing

The bidder must have a comprehensive suite of regression tests for each application. This testing will be completed with each delivery, so that both the bidder and ORGANIZING COMMITTEE know always the exact status of each application.

<p><i>End-to-End and Delivery Acceptance Testing</i></p> <p>This phase brings all the interfaces together to ensure the integrity of the data from its original source to delivery to end customers, whether print, graphics, data or screens.</p>		
<p>IT Security services</p> <p>There are some big differences make a Games Event different from a standard Security design that can fit the needs for most of the commercial networks. The most important one is the criticality of the Games Results Network that cannot fail during Games time, even for some seconds. Also the privacy of personal information is critical and access to the Games Data has to be hardly controlled and protected.</p> <p>IT Security requires a complete IT security plan that must consist in:</p> <ul style="list-style-type: none"> ▶ setting policies and guidelines, ▶ performing security risk assessment, ▶ defining architecture, ▶ building controls, ▶ auditing for compliance, ▶ performing continuous monitoring for complete security <p>From the point of view of services, the bidder will bring ORGANIZING COMMITTEE with the following IT Security Services:</p> <ul style="list-style-type: none"> ▶ Security Management ▶ End Point Security ▶ Network Security ▶ Identity and Access Management ▶ Security Monitoring 		

<p>Operation services (Games Time)</p> <p>On-Site operational support services</p> <p>The services are closely linked to the implementation and testing of the systems and during Games time to the Venue operation.</p> <p>The bidder must provide teams to supervise the operation of the systems in the venues. The size of the teams depends on the size of the venues, fields of play and any specific necessity or restriction for the competition. It is usual to have a team of volunteers to assist on non-critical tasks during the competition, who will be trained on their tasks.</p> <p>These teams will be on-site several days before the competition starts to supervise equipment installation and to ensure all the applications are ready when the competition starts. They will be supported by the TOC team in case of incidents that cannot be solved locally.</p> <p>Among their main duties are:</p> <ul style="list-style-type: none"> ▶ Preparation of competition data ▶ Deployment and dismantling of equipment ▶ System availability checks ▶ Operation of applications 		
<p>On-site technical support services</p> <p>On top of the teams working on the venue the bidder must provide a TOC team in charge of the central operation management.</p> <p>This on-site team will manage the operations of the Games from the TOC. It will be comprised of a selected team with experts in:</p> <ul style="list-style-type: none"> ▶ Project management ▶ Quality management 		

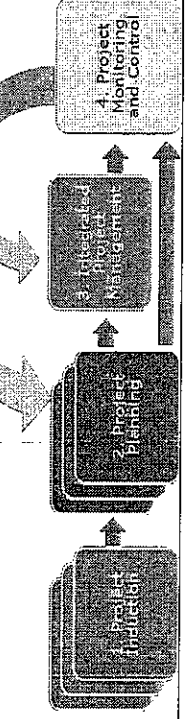
<ul style="list-style-type: none"> ▶ Venue Operations ▶ OVR ▶ System and competition Information ▶ Timing and Scoring applications and equipment ▶ Logistics and equipment management ▶ Infrastructure management ▶ GMS ▶ TV Graphics <p>The goal of this team is to ensure that all the main components of our solution for the Games work as intended and to anticipate and solve any potential issues that may be detected before they have any impact on the competition.</p> <p>Additionally there will be a remote support team to provide expert support in case needed and to attend potential escalations from the on-site teams.</p>			
<p>Project Management</p> <p>Governance</p> <p>The Project Management methodology sets a framework that:</p> <ul style="list-style-type: none"> ▶ Offers end-to-end service orchestration from best of breed stakeholders/components ▶ Provides a consistent process to manage the planning of different stakeholders to deliver End- to-End live operations ▶ Monitors stakeholders' schedules and ensures that project milestones are met ▶ Ensures that risks from the stakeholder's projects are effectively and efficiently managed ▶ Introduces collaboration models and ensures transparency and comprehensive reporting from all 			

<p>stakeholders</p> <ul style="list-style-type: none"> ▶ Introduces common and consistent standards of governance, quality management, operational interaction and service reporting ▶ Improves services and reduces costs 			
<p>Project Governance</p> <p>The bidder must recognize that setting up and maintaining the relationship with the ORGANIZING COMMITTEE is key to a successful delivery. This implies that the relationship structure must be clear and in-line with the demand-supply model, showing three levels:</p> <ul style="list-style-type: none"> ▶ strategic, defining guidelines and priorities for the service according to the business strategy ▶ tactical, defining how the service will fulfill the strategic guidelines and meet the expected quality, adapting to each situation ▶ operational, addressing daily topics and managing the relationship with the different stakeholders <p>Based on this 3-level governance model, the bidder must provide the following core roles:</p>			

<p><i>Major Events Chief Operations Officer</i></p> <p>Major Events Chief Operations Officer will lead the strategic level. This role will be the interlocutor of the ORGANIZING COMMITTEE Chief Technology Officer and, Senior Management will take over a sponsorship role for ORGANIZING COMMITTEE services. The main responsibility of this role is to oversee Business Relationship and Customer Satisfaction.</p> <p><i>Client Executive</i></p> <p>The Client Executive will lead the tactical level. This role will be the interlocutor of the ORGANIZING COMMITTEE internal IT Manager and will be responsible for the contractual and service fulfillment.</p> <p><i>Project / Service Managers</i></p> <p>The Project Manager role is the central contact for all customer concerns at an operational level. This role coordinates responses to diverse customer requirements on the scope of each service.</p>			
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<p>Strategic Level (Steering Committee): This Committee is meeting on a quarterly basis and is composed as minimum by the ORGANIZING COMMITTEE Chief Technology Officer and the bidder's Major Events Chief Operations Officer. The subjects discussed in this Committee will be:</p> <ul style="list-style-type: none"> • Alignment of the service with ORGANIZING COMMITTEE business IT strategy • Long term business goals • Key service risks and issues • Contract issues • Customer satisfaction • Feedback / Guidelines for the innovation Committee • Continuous service improvement actions at strategic level • Escalations resolution from tactical level <p>▢ Tactical Level (Tactical Committee): This Committee is meeting monthly and is composed as minimum by the ORGANIZING COMMITTEE Service/IT Manager and the bidder's Client Executive. The topics discussed in</p>		

<p>this Committee will be:</p> <ul style="list-style-type: none"> • Project Performance • Financial and Contract Management • Change Management • Service performance (SLA) • Proposed updates on SLA • Continuous Service improvement at Tactical level • Escalation from level below • Alignment with the Service/Technical Integration Boards <p>▶ Operational Level (Service / Project Review): For each of the projects in scope of this proposal, a different Service / Project review will be organized weekly or fortnightly, and will gather the ORGANIZING COMMITTEE Program/Project Manager and the bidder's Project / Service Deliver Manager. Main topics addressed in this Committee will be:</p> <ul style="list-style-type: none"> • Review of the day-to-day operations and project / service progress • Service level reporting • Review deviations in relation to Service levels and analyze root causes • Regular forecast of demand in terms of service • Deliverables dependencies • Plan team activities and schedule • Project risks and issues 			
<p>Project Management Process PROJECT INDUCTION</p> <p>Definition and set-up of the project and in the future, support to ORGANIZING COMMITTEE team in the case new project providers come on board.</p> <p>A comprehensive familiarization, induction and training program needs to be developed to ensure clear understanding of the Project Management Process and its</p>			

objectives.	<p>PROJECT PLANNING</p> <p>Project planning maintains project milestones, raises changes in milestones and opens new risks, issues or mitigation actions.</p> <p>INTEGRATED PROJECT MANAGEMENT</p> <p>Starting from the Project Planning activities, integrated project management maintains milestones dependencies, consolidated dashboards, consolidated risk log and reporting.</p> <p>PROJECT MONITORING AND CONTROL</p> <p>Through utilizing planning tools, integrator are responsible for providing accurate information to ORGANIZING COMMITTEE to monitor the project.</p> <p>AUDITS</p> <p>Audits need to be executed to ensure that all service implementations follow the Project Management Process.</p>		
	<p>Project Life Cycle</p> <p>Mobilization and Design Phase</p> <p>The bidder will develop a framework to manage the project according to the methodology for designing, implementing</p>		

<p>and go-live. This must be documented in the Project Management Plan. The bidder are engaged to:</p> <ul style="list-style-type: none"> ▶ Agree on the best planning model to fit the ORGANIZING COMMITTEE needs ▶ Build the framework to manage the project cost-efficiently, minimizing ORGANIZING COMMITTEE expenditure without jeopardizing service levels, ▶ Understand how the integrate with the data source owners and all service providers for the delivery of this project and with new providers for future projects, ▶ Align and adapt our objectives, priorities and deliverables to meet the common goal. <p>The Project Management Plan provides a disciplined framework of execution to ensure that the building phase gives way to the Run & Support phase. For successful transition the service it is essential to guarantee that the different stakeholders are properly coordinated by means of:</p> <ul style="list-style-type: none"> ▶ Tracking dependencies between the different stakeholders' schedules ▶ Identifying roles and responsibilities from each stakeholder involved ▶ Reporting status against milestones ▶ Reporting KPIs ▶ Managing and mitigating risks. <p>The Project Management Plan will include the Change Management Process to enable adjustments over time. It will also include standard project management details such as goals and objectives, timelines, milestones, and key term working definitions.</p> <p>Build Phase</p>		

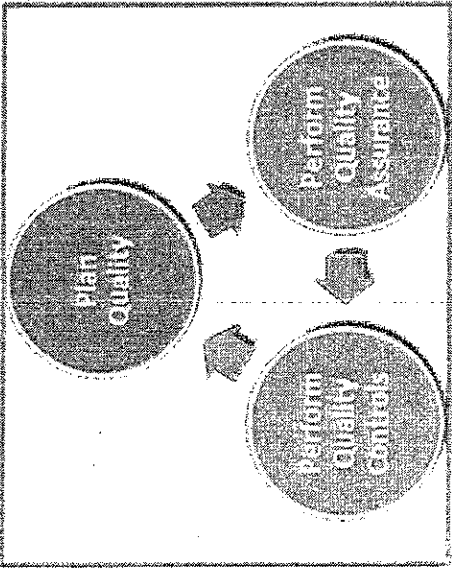
<p>During the Run Phase, the focus from the program management will shift to a follow up of the construction and development of the different modules of the service. As of the Agile methodology the bidder will be constantly testing our development against the reality by validating and working very closely to ORGANIZING COMMITTEE to correct as soon as possible any possible deviations that may be detected.</p>			
<p>Run & Support Phase</p> <p>During this phase the bidder must define the processes and tools required for the management of the Platform Services providing the support needed to resolve incidents or problems according to the agreed SLAs.</p> <p>In parallel, appropriate maintenance will be planned to keep software and platforms updated with patches and upgrades, as well as updating the data interfaces with the new evolutions coming from the constant change in the sports environment.</p>			
<p>Project Schedule</p> <p>Project Schedule's objective is to provide a mechanism to develop, communicate and report the progress of all phases across different stakeholders. It acts as an umbrella schedule defining and driving the deliverables and key activities of the project provider, ORGANIZING COMMITTEE and the rest of stakeholders.</p> <p>Shall the Project introduce new stakeholders in future stages, their Schedules will be inputs for the Project Schedule. By providing the appropriate level of information at each level of the schedules, it is possible to manage the Project and provide escalation points for critical cross functional dependencies</p>			

<p>without putting too much detail in the Schedule, which is primarily a plan used by management to review key milestones.</p>	
<p>Risk management</p> <p>It will be critical to the success of the project to:</p> <ul style="list-style-type: none"> ▶ Proactively prepare for any risks that the program may face ▶ Prepare for risks coming from new developments and integrations ▶ Put in place a crisis strategy and messaging in case it is needed <p>Evaluation of the likely risks to the project needs to take place in the early stages so that alternative plans can be devised for use if necessary. Examples of possible scenarios could be partial or complete data loss, or incomplete or wrong information.</p> <p>To control the risks that will inevitably appear during the project and ensure timely and quality delivery, the bidder will fully exploit their proven methodology that has been used in the Olympic and Paralympic Games Risk Management tool for the Olympic Games Technology Services.</p> <p>Methodology must support the identification, review and reporting of risks by guiding the team rigorously to classify, describe, evaluate the impact of each detected risk and finally define and implement mitigation actions.</p> <p>The bidder must apply Risk Management rigorously during the entire life of the project.</p> <p>KPIs will be defined and reported against, such as the number of active project risks with unacceptable rating, the risks that must be treated and reduced via mitigation planning, and the number of severe and/or high-priority issues.</p>	

<p>Capturing Risks</p> <p>The bidder must have a generated pre-populated risk list, identifying the most common risks based on previous experiences in managing data around results and competitions and to their relationship with many federations, the IOC and other relevant sport events.</p> <p>The bidder must run monthly Risk Review meetings with key players to identify new risks and mitigation actions, review the existing risks, their development and the progress of the mitigation actions. The frequency of these meetings can be increased according to the project status.</p> <p>To detect risks early and trigger immediate remediation action, the bidder must have channels in place to collect risks at any time, as soon they are detected by any of the team members.</p>		
<p>Reporting Risks</p> <p>The bidder must promptly notify ORGANIZING COMMITTEE of the high-priority detected risks, to speed-up any mitigation action definition and implementation.</p>		
<p>Quality assurance</p> <p>This section defines the quality standards, quality metrics, and the process for quality reviews and audits for all services in the Project Service Catalogue.</p> <p>OBJECTIVE</p> <p>Quality Assurance pursues the following objectives:</p> <ul style="list-style-type: none"> ▶ Ensure that the overall project is delivered with the 		

<p>quality and expectations demanded by the clients</p> <ul style="list-style-type: none"> ▶ Integrate quality management systems from different providers ▶ Ensure consistent quality across all providers <p>The primary goal of Quality Assurance is to build quality and reliability through excellence in business operations, system design, system integration and quantitative management methods, as well as a continuous drive for improvement.</p> <p>The Quality Management process is responsible for overseeing the rest of the processes, making sure that the set of standards, procedures and tools are defined for each process and are followed by the teams:</p> <ul style="list-style-type: none"> ▶ Are teams following the process? ▶ Are Quality Control checks properly applied? ▶ Are Quality Control checks efficient and effective? ▶ Is the process causing quality problems? ▶ Is the process working really applied to the organization? <p>The quality process consists of the following phases:</p>		
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PLAN QUALITY

Processes, Policies and Procedures constitute the Quality Framework for assuring the overall quality of the project.

PERFORM QUALITY ASSURANCE

The bidder must perform Quality Assurance for the overall project by means of:

- ▶ Verification and validation of the deliverables, to guarantee that those deliverables meet the Test Strategy
- ▶ Definition and management of the Service Level Agreements properly and efficiently, monitoring the performance of each service against the Service Level Agreements and taking appropriate actions to deal with any issues arising
- ▶ Performing quality management training
- ▶ Executing and reporting quality indicators and metrics

PERFORM QUALITY CONTROLS

The bidder must perform quality controls for the overall project by means of executing:

- ▶ Quality Audits of the Processes

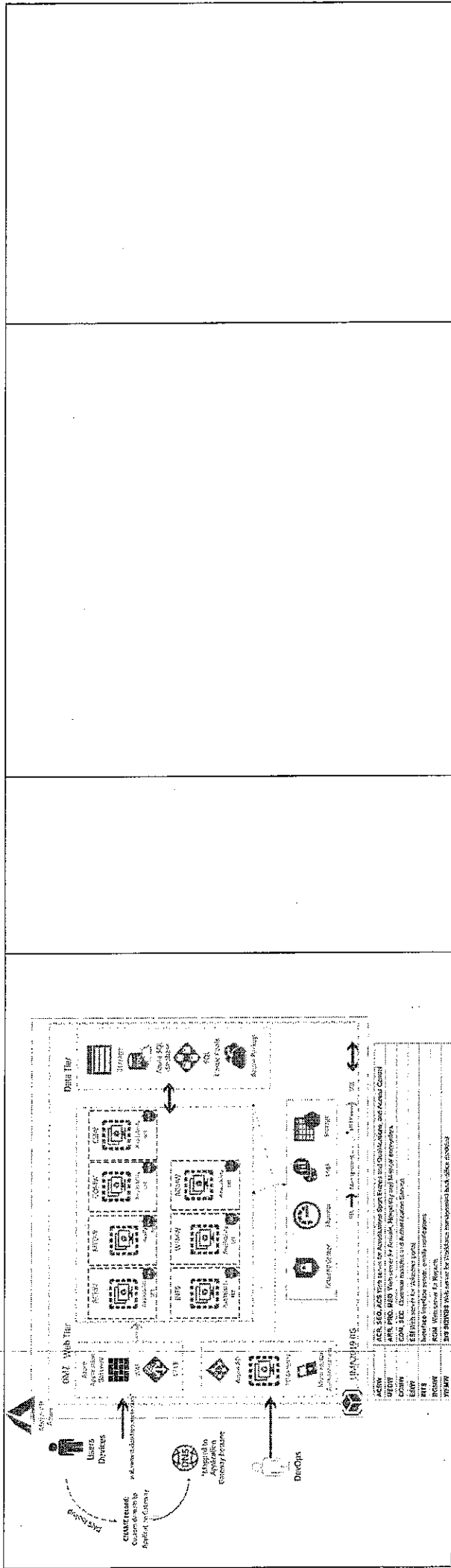
<ul style="list-style-type: none"> • Perform Quality Audits to validate the adherence of all services to the policies and procedures before the go-live • Process owners perform audits of their own processes for the services included in the Service Catalogue • Audit milestones will be tracked in the Master Schedule <p>Customer Satisfaction Surveys are carried out to measure to what extent the overall Project's solutions & services, processes and deliveries meet or exceed ORGANIZING COMMITTEE expectation, and to use outcomes to drive improvements.</p>			
<p>Staffing</p> <p>Organization Chart</p> <p>ORGANIZING COMMITTEE</p> <pre> graph TD A[Project Programme Management] --- B[System Investigation & Analysis Team] A --- C[Center Approval & Testing] A --- D[Center Utility & Security Team] A --- E[Technology Team] A --- F[Operational Support & Subcontractors] </pre>			
<p>Project management team</p> <p>This team will have a complete overview of the project status and potential issues during the different phases. There must be a program manager on-site and a project manager on their HQ to supervise the different delivery teams.</p> <p>The program manager will act as the main point of contact for ORGANIZING COMMITTEE daily and establish a close collaboration with the management staff in our HQ, including the PMO support, whose tasks will also be included as part of the project management team.</p>			

	<p>System Integration and IT Security Team</p> <p>Part of the team will be composed by security and infrastructure experts who will be in charge of setting the security and performance standards, ensure the proper deployment and configuration of the infrastructure supporting the Games Applications during the set-up phase, and the monitoring and maintenance of the systems before and during the games.</p> <p>The bidder must include in their offer an integration manager rolee to lead and coordinate the integration efforts with other parties and to inform all teams of specific necessities and constrains to take into consideration during the implementation.</p>		
	<p>Games Applications Team</p> <p>This team is composed of several development teams that will undertake the definition, development and unit testing of the functional modules of the systems required, which require customizations for the games.</p> <p>These teams will be coordinated with the onsite GMS manager who can provide a quick support to PHISOG, channel its demands, and solve any potential doubts in an agile manner.</p> <p>From an internal perspective, the bidder must have several teams working under the applications team block, under the supervision of our local project manager, to ensure that all development and customization efforts are aligned.</p>		
	<p>Games Timing and Scoring Team</p> <p>The bidder must use sport information standards for</p>		

		<p>information exchange. However, some adaptations may be required for on venue results systems and TV Graphics to accommodate for the specific rules of sports and competition, and the look and feel required from ORGANIZING COMMITTEE.</p> <p>The bidder must provide as part of their proposal an on-site expert that will liaise with the development teams in their headquarters to ensure that all the requirements are considered and implemented in the delivered solution.</p>	
		<p>Testing Team</p> <p>The bidder must conduct testing activities as part of the development frameworks; therefore unitary testing will be performed by the different Application teams.</p> <p>The testing activities include:</p> <ul style="list-style-type: none"> ▶ Definition of the Test strategy ▶ Plan testing and integrations with all data source owners ▶ Develop interfaces frameworks ▶ Perform functional and non-functional tests ▶ Management of the Testing activities including test plans, staff, environments, costs, timescales, test deliverables and traceability 	
		<p>The bidder must have their own specialized testing lab to replicate the technical environments and run the technical tests before proceeding to the User Acceptance Tests.</p>	
		<p>Operations and Support Team</p> <p>The Operations and Support Team will concentrate their activity at Games time. The teams will perform a series of tasks including:</p> <ul style="list-style-type: none"> ▶ Venue analysis, mapping installation and deployment 	

<p>of cabling, TSR, OVR, TVG and CIS systems. The initial evaluation of the sites will be conducted by the on-site team members.</p> <ul style="list-style-type: none"> ▶ Training of volunteers and required staff in the use of the systems ▶ Final tests and configurations ▶ Meetings with federations and technical delegates to confirm competition format, inscriptions, start lists, etc. ▶ Operation and support of the E2E systems and services throughout the Games ▶ Participants and schedule download from the accreditations module. Modification: in OVR systems and propagated externally to CIS, and CRS. 		
<p>One week before each of the sports commences all the experts of the different systems and sports will be onsite to make the final deployment and configurations. These teams will be divided by TOC and different sports/venue. The number of teams will and its components will be adjusted according to the final schedule and competition details (i.e number of FOP)</p>		
<p>Key Roles Job Descriptions (refer to the Tech Specs) Appendix I: Sample of TSR Equipment (refer to the Tech Specs)</p>		
<p>Appendix II: Venue Equipment (refer to the Tech Specs) Appendix III: SEAGIS architecture (refer to the Tech Specs)</p>		
<p>Games Management System</p>		
<p>GMS is composed of a set of fully functional modules which will be deployed on private cloud instances. They are integrated and interact with each other, as represented in the figure:</p>		

<p>The following picture shows the main architecture for information diffusion between GMS, Venue Systems, and other third party systems that feed on the Games and competition information. The whole system is designed to be highly distributed but also with high performance levels.</p>	



GMS Hosting requirements
 The minimum requirements for GMS services are as follows:
Virtual Infrastructure for ACR and SEQ

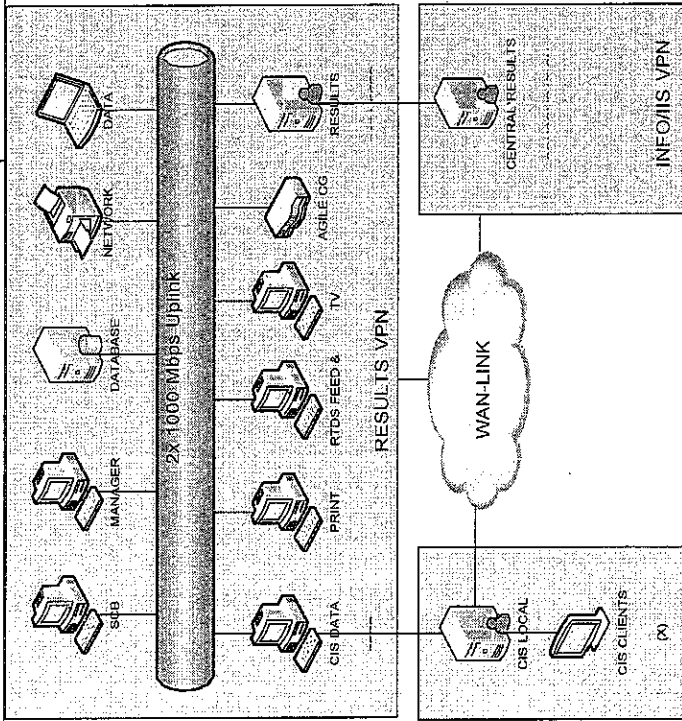
Environment	Virtual Machines		Disk	Memory	Cores	Virtual	Base Software req			Backup	Dates
	Purpose/Service	Number					Number	req	req		
Testing/UAT	GMS/Notification Server	4	70GB	8	1	WS 2012	No	****			
	GMS Report Server	4	70GB	8	1	WS 2012	No	****			
	GMS Database	4	100GB	16	1	SQL Cluster - WS 2012, SQL 2012 Standard	No	****			
Production	GMS/Notification Server	5	70GB	12	2	WS 2012	No	**			

		GMS Report Server	4	12	70GB	2	WS 2012	No	**
	Volunteer Portal Server**	2	12	70GB	2	WS 2012	No	**	
	Workforce Management Server**	2	12	70GB	2	WS 2012	No	**	
	GMS Database	8	32	100GB	Cluster	SQL Cluster - WS 2012, SQL 2012 Enterprise	Backup DB	***	
<p>** One month before the service Go Live *** One month before the first service goes live (depending on the services contracted) ***** Two months before the first service goes live</p> <p>A 2 layer logical architecture is defined with webservers and database servers deployed on different VLANs with connectivity restricted with a Firewall in between.</p> <p>High availability requirements:</p> <ul style="list-style-type: none"> ▶ Physical hardware provide redundant pieces (disk, network interfaces and power) ▶ Hypervisor redundancy providing high availability. Should one hypervisor break, then all Virtual machines must be restarted from other node. ▶ High availability in the network with no single point of failure. ▶ Load Balancing capability supporting at least 100 connections per second with 2 K certificates. ▶ Virtual Server OS Cluster for GMS Databases. <p>Connectivity requirements (during the whole project):</p>									

<ul style="list-style-type: none"> <input type="checkbox"/> VPN connectivity 10 Mbps is required from Major Events Headquarters in Spain for installation/management of the applications purpose. <input type="checkbox"/> Internet connectivity for GMS application access of 20 Mbps. <input type="checkbox"/> End to end connectivity of links managed by hosting provider. <input type="checkbox"/> Connectivity from TOC and OCOG offices to GMS applications. <input type="checkbox"/> Public IPs for the applications: 								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th style="text-align: left;">Service</th> <th style="text-align: left;">UAT</th> <th style="text-align: left;">Prod</th> </tr> </thead> <tbody> <tr> <td>GMS</td> <td>1 IP for Registration Portal</td> <td>3 IPs</td> </tr> </tbody> </table>	Service	UAT	Prod	GMS	1 IP for Registration Portal	3 IPs		
Service	UAT	Prod						
GMS	1 IP for Registration Portal	3 IPs						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th style="text-align: left;">Service</th> <th style="text-align: left;">UAT</th> <th style="text-align: left;">Production</th> </tr> </thead> <tbody> <tr> <td>Other</td> <td></td> <td> Entries and Reporting Services 1 extra IP 1 IP for VPN </td> </tr> </tbody> </table>	Service	UAT	Production	Other		Entries and Reporting Services 1 extra IP 1 IP for VPN		
Service	UAT	Production						
Other		Entries and Reporting Services 1 extra IP 1 IP for VPN						
<p>Monitoring requirements:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Physical hardware, hypervisor and Operating System to be monitored <input type="checkbox"/> Disk space in the Virtual Machines to be monitored <input type="checkbox"/> Bandwidth to be monitored for main links and server NICs <input type="checkbox"/> SQL Server and Application windows services to be monitored <input type="checkbox"/> JBOSS/Apache-Tomcat to be monitored <input type="checkbox"/> 24x7 monitoring available during Operational Periods and 8x5 during Pre-Operational Periods. <p>Periods are defined in agreement with the local committee.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Reporting of incidences, key parameters and service availability provided on monthly basis <p>Security requirements:</p>								

		<ul style="list-style-type: none"> ▶ End Point Security solution into the virtual machines with daily update of signature libraries ▶ Firewall protection to protect external connectivity and internal interfaces (authentication, connections to database, connection with BCG interface) ▶ IPS solution to inspect traffic ▶ 2 layer architecture, with DMZ front end hosting web services and back end hosting database and authentication. ▶ Agree with the Operating system and SQL Server updates deployment schedule ▶ Agree with network infrastructure updates deployment schedule ▶ Provision of SSL certificates 2048 K with Organizing Committee domain name in order to provide HTTPS secured connections (e.g. *.games2018.com) ▶ Security monitoring system to proactively monitor network, operating system and application events and provide alarms for security events. ▶ Connectivity for Accreditation badge printing and Access control limited by IP, so the source IP of the devices trying to print badges or performing access control needs to be visible by the servers. ▶ Dedicated private connectivity between the hosting provider and the Background Check and Immigration authorities ▶ 24x7 monitoring available during Operational Periods and 8x5 during Pre-Operational Periods. Periods are defined in agreement with the local committee ▶ Reporting of incidences by type provided on monthly basis 			<p>Games Result System</p> <p>On Venue Results System</p>
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There is an OVR System for each sport. The OVR system will be installed at the venues and will be in charge of the management of the sport competition.



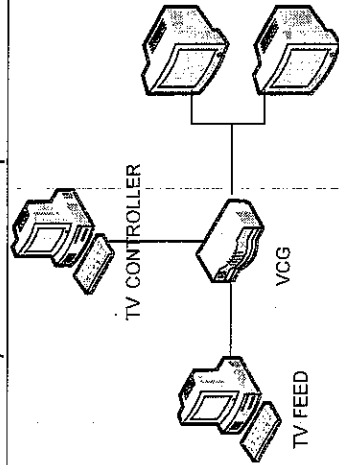
Component	Layout and function
Scoreboard Controller	1 PC for sending information to public scoreboards
Manager Control	1 PC for managing the sport competition
Database Servers	2 servers (Main + Backup line) to consolidate results
Network Printer	1+ network printers
Data Entry	1+ laptops to input results (may be connected to T&S)
CIS Data Feed	1 PC for sending information to CIS system
Print Distribution	1 PC for distributing reports to RDDS 1+ PCs, depending on signals, for RTDS
RTDS Feed & Controller	

OVR Interfaces

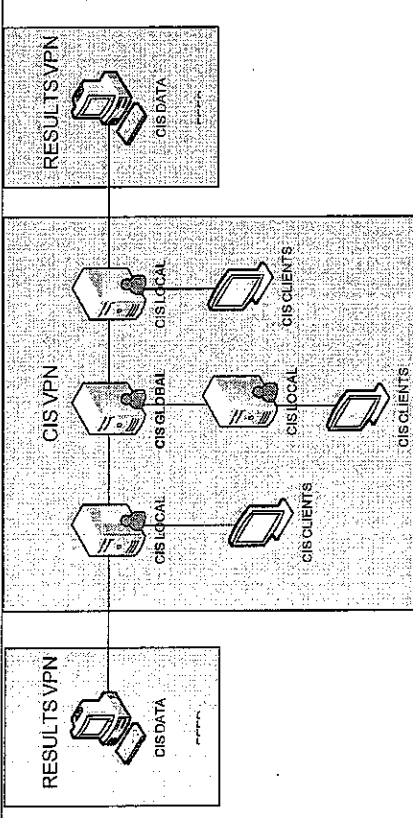
Interface	Information exchange
T&S	T&S downloads from OVR information regarding start lists and competitors. T&S sends instantaneous result to OVR
Scoreboards	OVR sends competition data to Scoreboards to be shown at the venues. Schedules, Start Lists, Results, Medals... the format will depend on the characteristics of the scoreboard. In case of Videoboard, the feed from OVR will
RPDS	OVR sends results related reports to RPDS for
CIS/RTDS	OVR feeds CIS with real-time competition
TVG	OVR feeds TVG with real-time competition

TV Graphics

TV Graphics (TVG) is a tool for creating graphic elements and display them inserted into a live TV signal. TVG works producing graphics based on previous designed templates and mapping them with data obtained from Timing & Scoring System (T&S) and OVR. The results are offered to TV director to be mixed with signal whenever he wants. That means that running time and competition results are managed in one system so the operation is more effective. The architecture (in each OVR-TV Compound- and other locations) is shown in the picture:



Component | **Layout and function**

<table border="1"> <tr> <td data-bbox="201 1352 258 2168">TV Feed</td> <td data-bbox="201 1352 324 2168">1 PC in Results Network to feed AGILE with results</td> </tr> <tr> <td data-bbox="258 1352 289 2168">AGILE</td> <td data-bbox="258 1352 324 2168">1+ AGILES depending on</td> </tr> <tr> <td data-bbox="289 1352 324 2168">TV Controller</td> <td data-bbox="289 1352 324 2168">1 PC (not in results network)</td> </tr> </table>	TV Feed	1 PC in Results Network to feed AGILE with results	AGILE	1+ AGILES depending on	TV Controller	1 PC (not in results network)						
TV Feed	1 PC in Results Network to feed AGILE with results											
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TV Controller	1 PC (not in results network)											
<p>Commentator Information System (CIS)</p> <p>This system is used to distribute real-time information to be used by the commentators.</p> <p>The CIS provides the commentator with comprehensive and personalized sport information, status of the competition, live results with ranking and records information, standings and medals for the different sports. The architecture main components for the system are:</p>												
												
<table border="1"> <thead> <tr> <th data-bbox="1048 1352 1105 2168">Component</th> <th data-bbox="1048 1352 1259 2168">Layout and function</th> </tr> </thead> <tbody> <tr> <td data-bbox="1105 1352 1136 2168">CIS Data Feed</td> <td data-bbox="1105 1352 1259 2168">1 PC in each OVR</td> </tr> <tr> <td data-bbox="1136 1352 1167 2168">CIS Local Server</td> <td data-bbox="1136 1352 1259 2168">1 server in each OVR and other locations</td> </tr> <tr> <td data-bbox="1167 1352 1198 2168">CIS Clients</td> <td data-bbox="1167 1352 1259 2168">N terminals in each venue and other</td> </tr> <tr> <td data-bbox="1198 1352 1259 2168">CIS Global Server</td> <td data-bbox="1198 1352 1259 2168">1 central server which receives the local information from the Local Servers and re-sends it to the rest of</td> </tr> </tbody> </table>	Component	Layout and function	CIS Data Feed	1 PC in each OVR	CIS Local Server	1 server in each OVR and other locations	CIS Clients	N terminals in each venue and other	CIS Global Server	1 central server which receives the local information from the Local Servers and re-sends it to the rest of		
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CIS Global Server	1 central server which receives the local information from the Local Servers and re-sends it to the rest of											
<p>Both the CIS server and the commentators' terminals must be on a different communications network from the primary management network, in such a way that the traffic of one does</p>												

<p>not interfere with the traffic of the other, except for those required data transmissions that will be filtered via hardware (router, gateway, etc.)</p>			
<p>Backup, fail over and recovery plans</p>			
<p>VENUE SYSTEMS</p>			
<p>In case of system failures, OVR can recover by itself or with external help without mistakes or losing any information. Failover system is based in a group of applications that share the same information in a Data Model throughout a network. Each component will have an exact copy of the model in its own memory. This model is updated in the database server and replicated in the backup server automatically.</p> <p>If there is a network failure, all updates waiting to be stored in the database will be queued up until the update is successful; meanwhile the system can continue working (if there is no network failure in the backup line, all the updates are stored there, anyway). If the network failure is not solved, it is possible to make a backup of the model and restore it manually in the server. In any case, every mechanism will keep working normally and when the network failure is solved all the information will be sent and re-sent until the situation is stabilized.</p>			
<p>Environments</p>			
<p>The bidder must use 4 different environments during the project lifecycle:</p> <ul style="list-style-type: none"> ▶ Development: Specific environment to make any development and configurations needed for the systems. ▶ Testing: the project will deliver several release packages with the functionalities required for the Games. The bidder must test them internally in their test labs before each release. The bidder must also use this environment for test events and rehearsals, as some of the modules required for the Games may be already deployed and live in production environments, and isolate the test from the Games 			

			<p>operation.</p> <p>▶ Training: The training environment is a down-sized copy of the test environment. It is only activated for training periods and with a limited number of data and functionalities enabled depending on the training plan and users.</p> <p>▶ Production/Operation: This is the actual Games environment, separated in a differentiated instance. It is activated when the first GMS modules and web portals are made available to users, but allocated resources vary over time depending on demand necessities and when additional modules and functionalities are incorporated.</p>																																										
			<p>Hosting and connectivity</p> <p>The hosting and connectivity requirements will be determined during the initial design phase when the architecture is defined, depending on the final number of systems to be deployed and the expected number of concurrent users. Typical installations can include:</p>																																										
		<table border="1"> <thead> <tr> <th data-bbox="826 1115 936 1350">Environment</th> <th data-bbox="936 1115 1013 1350">Virtual Machines Purpose</th> <th data-bbox="1013 1115 1090 1350">Virtual I Core</th> <th data-bbox="1090 1115 1167 1350">Memory</th> <th data-bbox="1167 1115 1244 1350">Disk</th> <th data-bbox="1244 1115 1324 1350">#</th> <th data-bbox="1324 1115 1493 1350">Base Software req.</th> </tr> </thead> <tbody> <tr> <td data-bbox="826 1350 936 1541">Test/UAT</td> <td data-bbox="936 1350 1013 1541">GMS - Core</td> <td data-bbox="1013 1350 1090 1541">2 vCore</td> <td data-bbox="1090 1350 1167 1541">4 GB</td> <td data-bbox="1167 1350 1244 1541">80GB</td> <td data-bbox="1244 1350 1324 1541">1</td> <td data-bbox="1324 1350 1493 1541">Windows 2012 Server R2</td> </tr> <tr> <td></td> <td data-bbox="936 1541 1013 1653">GMS - Internet (ECR, SEQ)</td> <td data-bbox="1013 1541 1090 1653">2 vCore</td> <td data-bbox="1090 1541 1167 1653">5 GB</td> <td data-bbox="1167 1541 1244 1653">80GB</td> <td data-bbox="1244 1541 1324 1653">1</td> <td data-bbox="1324 1541 1493 1653">Windows 2012 Server R2</td> </tr> <tr> <td></td> <td data-bbox="936 1653 1013 1765">GMS - (ACR)</td> <td data-bbox="1013 1653 1090 1765">2 vCore</td> <td data-bbox="1090 1653 1167 1765">5 GB</td> <td data-bbox="1167 1653 1244 1765">80GB</td> <td data-bbox="1244 1653 1324 1765">1</td> <td data-bbox="1324 1653 1493 1765">Windows 2012 Server R2</td> </tr> <tr> <td></td> <td data-bbox="936 1765 1013 1877">Ext. interfaces</td> <td data-bbox="1013 1765 1090 1877">2 vCore</td> <td data-bbox="1090 1765 1167 1877">3 GB</td> <td data-bbox="1167 1765 1244 1877">80GB</td> <td data-bbox="1244 1765 1324 1877">1</td> <td data-bbox="1324 1765 1493 1877">Windows 2012 Server R2</td> </tr> <tr> <td></td> <td data-bbox="936 1877 1013 1989">Reporting</td> <td data-bbox="1013 1877 1090 1989">2 vCore</td> <td data-bbox="1090 1877 1167 1989">9 GB</td> <td data-bbox="1167 1877 1244 1989">80GB</td> <td data-bbox="1244 1877 1324 1989">1</td> <td data-bbox="1324 1877 1493 1989">Windows 2012 Server R2</td> </tr> </tbody> </table>	Environment	Virtual Machines Purpose	Virtual I Core	Memory	Disk	#	Base Software req.	Test/UAT	GMS - Core	2 vCore	4 GB	80GB	1	Windows 2012 Server R2		GMS - Internet (ECR, SEQ)	2 vCore	5 GB	80GB	1	Windows 2012 Server R2		GMS - (ACR)	2 vCore	5 GB	80GB	1	Windows 2012 Server R2		Ext. interfaces	2 vCore	3 GB	80GB	1	Windows 2012 Server R2		Reporting	2 vCore	9 GB	80GB	1	Windows 2012 Server R2	
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	Ext. interfaces	2 vCore	3 GB	80GB	1	Windows 2012 Server R2																																							
	Reporting	2 vCore	9 GB	80GB	1	Windows 2012 Server R2																																							

		Virtual DB GMS	8 vCore	25 GB	250 GB	1	Windows 2012 Server R2, SQL Server 2012 Standard
		Authentication	2 vCore	3 GB	80GB	1	Windows 2012 Server R2 + Active Directory
	Production	GMS - Core	2 vCore	4 GB	80GB	1	Windows 2012 Server R2
		GMS - Internet (ECR, SEO)	2 vCore	5 GB	80GB	1	Windows 2012 Server R2
		GMS - OCOG (ACR)	2 vCore	5 GB	80GB	1	Windows 2012 Server R2
		Ext. interfaces	2 vCore	3 GB	80GB	1	Windows 2012 Server R2
		Reporting	2 vCore	9 GB	80GB	1	Windows 2012 Server R2
		INFO (Tomcat Server)	8 vCore	8 GB	80GB	1	Windows 2012 Server R2
		Virtual DB GMS	8 vCore	25 GB	250 GB	1	Windows 2012 Server R2, SQL
		Authentication	2 vCore	3 GB	80GB	2	Windows 2012 Server R2 + Active Directory
<p>High availability requirements:</p> <ul style="list-style-type: none"> ▣ Physical hardware with redundant pieces (disk, network interfaces and power). ▣ Hypervisor redundancy providing high availability. Should one hypervisor break, then all Virtual machines must be restarted from other node. 							

<p>▶ High availability in the network with no single point of failure.</p>	<p>Connectivity requirements:</p> <ul style="list-style-type: none"> ▶ VPN connectivity 10 Mbps is required from Major Events Headquarters for installation/management of the applications purpose. ▶ Internet connectivity for application access of 20 Mbps. ▶ Connectivity 2 Mbps to the authorities to interface with Background check. ▶ Public IPs for application provision in production and testing environments. <p>Monitoring requirements:</p> <ul style="list-style-type: none"> ▶ Physical hardware, hypervisor and Operating System to be monitored. ▶ Disk space in the Virtual Machines to be monitored. ▶ Bandwidth to be monitored for main links and server NICs. ▶ SQL Server and Application windows services to be monitored. ▶ JBOSS to be monitored. 	<p>Security requirements:</p> <ul style="list-style-type: none"> ▶ Firewall protection to protect external connectivity and internal interfaces (authentication, connections to database, connection with BCG interface). ▶ IPS solution to inspect traffic. ▶ 2 layer architecture, with DMZ front end hosting web services and back end hosting database and authentication. ▶ Provision of SSL certificates 2048 K with ORGANIZING COMMITTEE domain name in order to provide HTTPS secured connections. ▶ Connectivity for Accreditation badge printing and Access control limited by IP.
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ANNEX B
SCHEDULE OF PRICES

For Goods Offered From Abroad

Name of Bidder _____ Invitation to Bid⁷ Number ____ Page ____ of _____

1	2	3	4	5	6	7	8	9
Item	Description	Country of origin	Quantity	Unit price CIF port of entry (specify port) or CIP named place (specify border point or place of destination)	Total CIF or CIP price per item (col. 4 x 5)	Unit Price Delivered Duty Unpaid (DDU)	Unit price Delivered Duty Paid (DDP)	Total Price delivered DDP (col 4 x 8)

⁷ If ADB, JBIC and WB funded projects, use IFB.

For Goods Offered From Within the Philippines

Name of Bidder _____ . Invitation to Bid⁸ Number _ . Page of ____.

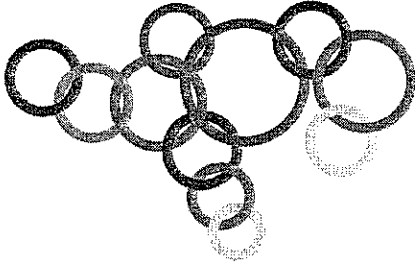
1	2	3	4	5	6	7	8	9	10
Item	Description	Country of origin	Quantity	Unit price EXW per item	Cost of local labor, raw material, and component ²	Total price EXW per item (cols. 4 x 5)	Unit prices per item final destination and unit price of other incidental services	Sales and other taxes payable per item if Contract is awarded	Total Price delivered Final Destination (col 8 + 9) x 4

⁸ If ADB, JBIC and WB funded projects, use IFB.

ANNEX C

List of Venues, Sports Systems, Technical Handbook, List of Test Events and Schedules

List of Competition & Training Venues

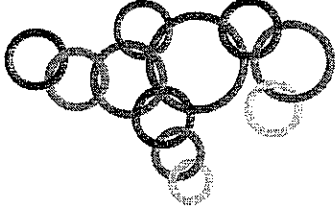


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(VERSION 16: 08-20-2019)

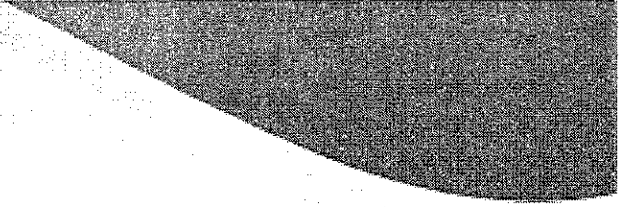
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VENUES DEPARTMENT



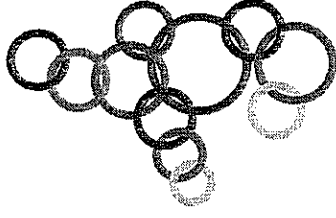
PHILIPPINES 2019
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CLARK CLUSTER



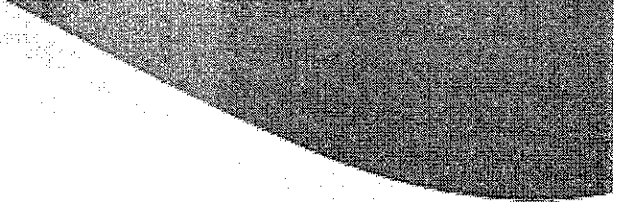
SPORT / CLUSTER / VENUE				
SPORT	CLUSTER	Competition Venue	Training Venue	
Aquatics - Diving	CLK	Aquatics Centre, New Clark City	Diving Pool, NCC Aquatic Center	
Aquatics - Swimming	CLK	Aquatics Centre, New Clark City	NCC Aquatic Center	
Aquatics - Water Polo	CLK	Aquatics Centre, New Clark City	NCC Aquatic Center	
Athletics	CLK	Athletics Stadium, New Clark City	Warm-Up Track beside Competition Oval (NCC)	
Lawn Bowls	CLK	Malabon Properties Land Holdings Ltd., Mabanas, Angeles City (Formerly: Angeles Sports & Ctry Club)	Malabon Properties Land Holdings Ltd., Mabanas, Angeles City (Formerly: Angeles Sports & Ctry Club)	
Petanque	CLK	CDC Lot in front of Royce Hotel, Clark	TBA	
Archery	CLK	Parade Grounds	Beside actual competition area at the Parade Grounds	
Rugby 7s	CLK	Parade Grounds	Parade Grounds; Challenger Field; Noblesse International School	
Baseball	CLK	The Villages	The Villages	
Softball	CLK	The Villages	The Villages	
Dance Sport	CLK	Royce Hotel	Royce Hotel	
Golf	CLK	Luisita Golf	Luisita Golf	
Kurash	CLK	LausGroup Events Center, San Fernando City	TempFacil in front of LGEC	
Judo	CLK	LausGroup Events Center, San Fernando City	TempFacil in front of LGEC	
Jujitsu	CLK	LausGroup Events Center, San Fernando City	TempFacil in front of LGEC	
Arnis	CLK	Angeles University Foundation, Angeles City	AUF	
Sambo	CLK	Angeles University Foundation, Angeles City	AUF	
Wrestling	CLK	Angeles University Foundation, Angeles City	AUF	
Wakeboarding	CLK	DECA Wakeboard Park, Clark	DECA Wakeboard Park, Clark	
	17			12

Some details above are subject to change



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SUBIC CLUSTER

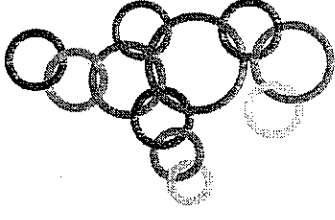


SPORT / CLUSTER / VENUE		CLUSTER	Competition Venue	Training Venue
Canoe/Kayak		SUB	Malawaan Park	Taytay Rizal; ULTRA; Subic
TBR Dragon Boat		SUB	Malawaan Park	Taytay Rizal; ULTRA; Subic
Chess		SUB	Rialto Function Room (Travelers' Hotel)	Rialto, Travellers Hotel
Muay		SUB	SBECC	TBD
Pencak Silat		SUB	SBECC	SBECC
Table Tennis		SUB	SBECC	SBECC
Triathlon		SUB	Subic Bay (Boardwalk, Bldg 229 Area)	Wow Swimming Pool; Brent Sw. Pool; Acea Beach Resort; Remy Field Track Oval; Covered Badminton
Duathlon		SUB	Subic Bay (Boardwalk, Bldg 229 Area)	Track Oval; Biking around SBMA; Remy Field Track Oval; Covered Badminton/Tennis Courts
Aquatics - Open Water Swimming		SUB	Subic Bay (Boardwalk, Bldg 229 Area)	Wow Swimming Pool
Modern Pentathlon		SUB	Subic Bay (Boardwalk, Helipad Area, Beach)	Subic Bay (Boardwalk, Helipad Area, Beach)
Sailing		SUB	Subic Bay Yacht Club	Subic Bay Yacht Club/Waters off Subic Bay Waterfront
Wind Surfing		SUB	Lighthouse Hotel Area	Subic Bay Yacht Club/Waters off Subic Bay Waterfront
Sepak Takraw		SUB	Subic Gym	Subic Intl. Indoor Tennis Center; 3 Training Courts
Beach Handball		SUB	Subic Tennis Courts	Subic Bay International Tennis Center
Beach Volleyball		SUB	Subic Tennis Courts	Subic Bay International Tennis Center
Rowing		SUB	Triboa Bay / ACEA	Malawaan Park
Shooting (Shotgun)		SUB	The Firing Range, Ilanin Forest West District, Subic Bay Freeport Zone	The Firing Range, Ilanin Forest West District, Subic Bay Freeport Zone

12

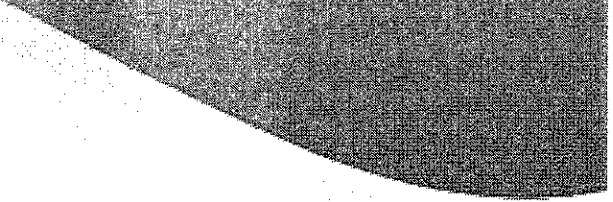
17

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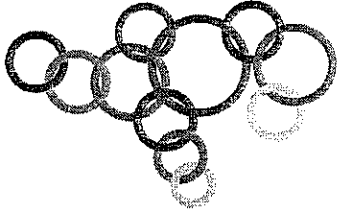
METRO MANILA CLUSTER



SPORT / CLUSTER / VENUE		CLUSTER	Competition Venue	Training Venue
SPORT		MMA	Muntinlupa Sports Complex *	Bgy. Sta. Cruz Gym, Makati
Badminton		MMA	StarMall EDSA	Coronado Lanes, StarMall EDSA; Astrobowl, StarMall Alabang
Bowling		MMA	MOA Arena	Manila Tylana Colleges; Palm Manila Bay
Basketball (5x5)		MMA	Filfil Flying V Centre (San Juan)	Manila Tylana Colleges; Palm Manila Bay
Basketball (3x3)		MMA	Filfil Flying V Centre (San Juan)	IBD
Esports		MMA	PICC Forum 1-2-3	PICC Forum 3
Boxing		MMA	Cuneta Astrodome	Cuneta Astrodome
Kick Boxing		MMA	Manila Hotel Tent	RMSC Billiards, 3rd Flr SMAP Bldg.
Billiards Sports		MMA	RMSC Football Stadium; UP Football Stadium	RMSC Football Field; Binaan FS; UNMak FS; McKinley FS; UP Diliman FF; PFF Training Center, C
Football (ft)		MMA	RMSC Basketball Coliseum	RMSC Weightlifting Gym
Weightlifting		MMA	RMSC Basketball Coliseum	RMSC MAS; RMSC Taekwondo Dojang
Taekwondo		MMA	RMSC Basketball Coliseum	RMSC Tennis Courts
Soft Tennis		MMA	RMSC Tennis Courts	RMSC Tennis Courts
Tennis		MMA	RMSC Tennis Courts	RMSC Tennis Courts
Squash		MMA	RMSC (Basketball Area, Net, MAS & Football Stadium)	Manila Polo Club; Kerry Sports, Shangrila, BGC
Ice Hockey		MMA	SM MOA (Ice Rink)	SM MDA (Ice Rink)
Ice Skating - Figure Skating		MMA	SM Mega Mall (Ice Rink)	SM Mega Mall (Ice Rink)
Ice Skating - Speed Skating		MMA	SM Mega Mall (Ice Rink)	SM Mega Mall (Ice Rink)
Wushu		MMA	WTC (Halls A-B)	WTC (Halls A-B)
Karatedo		MMA	WTC (Halls A-B)	WTC (Halls A-B)
Fencing		MMA	WTC (Halls B-C)	WTC (Halls B-C)
Gymnastics - Artistic		MMA	PhilSports MPA (ULTRA)	PhilSports MPA (ULTRA)
Gymnastics - Rhythmic		MMA	PhilSports MPA (ULTRA)	PhilSports MPA (ULTRA)
Gymnastics - Aerobic		MMA	PhilSports MPA (ULTRA)	PhilSports MPA (ULTRA)
Volleyball		MMA	RMSC (Muey Aquino Stadium)	Ynares Gym, Pasig; Toby's Arena, Golds' Gym, Sheridan, Upper Deck Ortigas
Shooting (ISSF Rifle & Pistol, PPC, Benchrest & Silhouette)		MMA	Marine Corps Training Center, PMIFRC, Bonifacio Naval Center, Bgy Post Proper Southside, Makati City	Marine Corps Training Center, PMIFRC, Bonifacio Naval Center, Bgy Post Proper Southside,
Obstacle Course Sports		MMA	UP Sunken Garden, QC	Actual Race Course

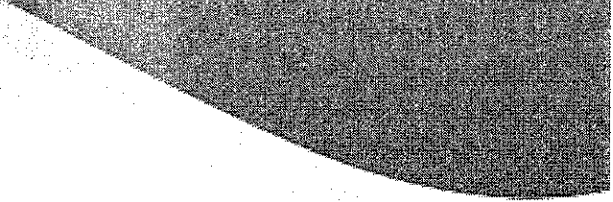
NOTE: * - Venue under further evaluation

Some details above are subject to change



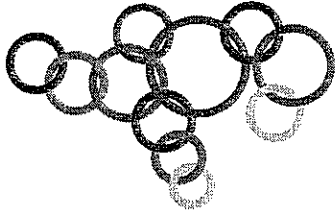
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SOUTHERN LUZON & OTHERS



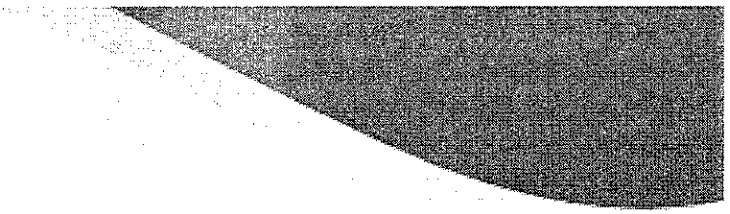
SPORT / CLUSTER / VENUE		CLUSTER	Competition Venue	Training Venue
Polo	SOL	Miguel Romero Sports Club; Zobel Farm Polo Field	Miguel Romero Sports Club; 2 Zobel Farm Polo Field	
Cycling - BMX	SOL	Tagaytay	Tagaytay	Tagaytay
Cycling - Road	SOL	Tagaytay	Tagaytay	Tagaytay
Cycling - MTB	SOL	Tagaytay	Tagaytay	Tagaytay
Skateboarding	SOL	Tagaytay	Tagaytay	Tagaytay
Football (M&W)	SOL	Biñan Football Stadium; UP Football Stadium	Biñan Football Field; Biñan FS; UMaak FS; McKinley FS; UP Diliman FF; PFF Training Center	
Surfing	SOL	Monalisa Pt.-Little Surfmaid-Kahuna, San Juan La Union	San Juan, La Union	
Underwater Hockey	SOL	Vermosa Sports Hub	PhilSports ULTRA Swimming Pool; RMSC Swimming Pool; Vermosa Sports Hub	
Netball	SOL	Sta. Rosa Sports Complex †	British School Manila	
Floorball	SOL	LB Centro Mall & Conv. Center	Possibly Trace	
Indoor Hockey	SOL	LB Centro Mall & Conv. Center	Possibly Trace	
NOTE: † - Venue under further evaluation	9			11

Some details above are subject to change



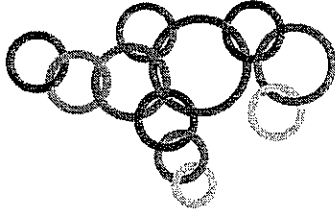
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OTHER KEY VENUES



DESCRIPTION / CLUSTER / VENUE		
DESCRIPTION	CLUSTER	VENUE
Opening Ceremony	Southern Luzon & Others	Philippine Arena (Bulacan)
Accreditations/Uniforms Distributions Center	Metro Manila	WTC (Hall D)
Airport	Clark	Clark International Airport
Airport	Metro Manila	Ninoy Aquino International Airport (T1, T2, T3)
Athletes Village	Clark	New Clark City
Cultural Events Plaza	Metro Manila	RMSC, Baseball Stadium
IBC/MPC	Clark	ASEAN CONVENTION CENTER
Sub Media Centers	Subic; Metro Manila	SBCEC (Subic); WTC (Metro Manila)
Main Transportation Hub	3 Clusters	Clark, Subic, Metro Manila
Closing Ceremony	Clark	Athletics Stadium (New Clark City)

Some details above are subject to change



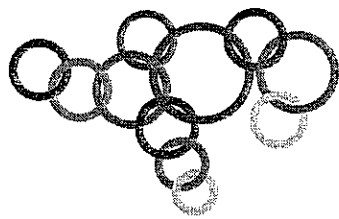
PHILIPPINES 2019
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Sports: 56

Events: 530

Sports Venues: 54

[CLK-12; MMA-19; SUB-12; SOLO-11]



PHILIPPINES 2019
30th SEA GAMES

We Win As One!

CLARK

NO.	SPORTS	MANUAL	PROVIDER	EQUIPMENT		AVAILABLE IT COMPONENTS IN THE VENUE	REMARKS
				OVR	T&S		
1	Archery	N	Ianseoo Scoring System	1	1	on going construction	
2	Amis	-	Federation	1	1	the venue has wifi but won't be enough to cover all the IT requirements of the T&S vendor	
3	Athletics	N	SEAGIS	1	1	with offices, with network	
4	Aquatics - Diving	N				with offices, with network	
5	Aquatics - Vwater Polo	N	Omega	1	1	with offices, with network	
6	Aquatics - Swimming	N				with offices, with network	Will interface with SEAGIS Provider
7	Baseball	N	Federation	1	1	the venue has wifi but won't be enough to cover all the IT requirements of the T&S vendor	
8	Dancesport	Y	Australian provider	1	1	the venue has wifi but won't be enough to cover all the IT requirements of the T&S vendor	Will interface with SEAGIS Provider
9	Golf	Y	Asian Golf Federation	1	1	the venue has wifi but won't be enough to cover all the IT requirements of the T&S vendor	Will interface with SEAGIS Provider
10	Judo	N	Ippon Draw		1	wifi through PLDT	Will interface with SEAGIS Provider
11	Jiujitsu	N	Sportsdata	1	1	wifi through PLDT	Will interface with SEAGIS Provider
12	Kurash	N	SEAGIS		1	wifi through PLDT	
13	Lawn Bowls	Y	Manual Scoreboard	1	0	on going construction	Manual scoreboard (flip the board to change the scores)
14	Petanque	Y	Manual Scoreboard	1	0	on going construction	Manual scoreboard (flip the board to change the scores)

15	Rugby		N	Macocooo	1	1	on going construction	
16	Sambo		N	SEAGIS	1	1	the venue has wifi but won't be enough to cover all the IT requirements of the T&S vendor	
17	Wrestling		N	SEAGIS	1	1	the venue has wifi but won't be enough to cover all the IT requirements of the T&S vendor	IF/AF unresolved issues
18	Wakeboarding		Y	International Waterski and Wakeboard Federation	1	1	the venue has wifi but won't be enough to cover all the IT requirements of the T&S vendor	Will interface with SEAGIS Provider
19	Softball		N	Federation	1	1	the venue has wifi but won't be enough to cover all the IT requirements of the T&S vendor	

SOLU

No.	SPORTS	MANUAL	PROVIDER	EQUIPMENT OVR T&S		AVAILABLE IT COMPONENTS IN THE VENUE		REMARKS	REMARKS (TD Meeting and Site Visit)
1	Cycling - Road_ITT; TTT; RR Women		AT Timing Service Group	1	1	None (Power will be tap at TICC)	Interface with SEAGIS	Interface with SEAGIS	
	Cycling - Road_RR Men			1	1	None (Genset power will be use)			
	Cycling - MTB	Y		1	1	None (Genset power will be use and Weak to No Signal)			
	Cycling - BMX_Race			1		On going construction			
	Cycling - BMX_Free Style			1		None (Power will be tap at TICC)			
2	Floor Ball	Y	Online Stat Scoring System	1	1	With Office, they will install network	encoded via web result	Need internet for T&S; Online T&S	
3	Football Women	N	SEAGIS	1	1	On going construction			
4	Indoor Hockey	Y	FIH Online Website	1	1	With Office, they will install network	encoded via web result	Online T&S	
5	Netball	N	SEAGIS	1	1	With Office, existing network	encoded via web result		
6	Polo	N	SEAGIS	2	1	With office on both site both and weak cellular signal; No network	encoded via web result		
7	Skateboarding (Street and Park Skate)	N	To Be Determined	1	1	On going construction	need confirmation from the vendor	As of now the CM submitted BR to purchase the Scoring System of IF	

	Skateboarding (Game of Skate)	N	SEAGIS	1	1	None	need confirmation from the vendor	Scoring System for Game of Stake (If player get STAKE letter, automatically eliminate(it will be given 1 change to perform a trick))
	Skateboarding (Downhill)	N	Raw Moving (Timing Only)	1	1	None (Genset Power will be use)	need confirmation from the vendor	Will use transpnder; Need Photo Finish Camera and Scoring System from the SEAGIS Vendor
8	Surfing	Y	Refresh Technology	1	1	Waiting for confirmation	Encoded via web result	Need internet for T&S
9	Underwater Hockey	Y	UWH Scoring System	1	1	No network on the pool but have network on the office (100m apart)	interface with SEAGIS	Interface with SEAGIS

SUBIC

No.	SPORTS	MANUAL	PROVIDER	EQUIPMENT OVR T&S	AVAILABLE IT COMPONENTS IN THE VENUE	REMARKS	
1	Beach Volleyball	Y	-	1	0	None. But they do have 4 pcs of electrical outlets on bleacher and spotlights on playing courts	Encoded via web result
2	Beach Handball	Y	Federation - The Molten	1	1	None. But they do have 4 pcs of electrical outlets on bleacher and spotlights on playing courts	
3	Chess	Y	Federation - Swiss Manager	1	1	None. But they do plan to install router and switch for OVR and the TD are requesting for the fast internet connection since it's live stream	
4	Muay	Y	Arisports	1	1	None. Under renovation	As per CM, the name of scoring system is Pencak Silat Result - sql format or csv format
5	Pencak Silat	Y	Federation	1	1	None. Under renovation	
6	Table Tennis	N	SEAGIS	1	1	None. Under renovation	
7	Sepak Takraw	N	SEAGIS	1	1	The venue has landline on TD office but doesn't have the IT equipments	
8	Modern Pentathlon	Y	Omega or Seiko	1	1	None since it's temporary facilities (tent)	stop watch

9	Open Water Swimming, 10K Male	Y	Federation or Alien Technology	1	1	None. But they do have power source in hanjin boat terminal but not sure if it's activated. As of 09/06 - The power source in Hanjin will no longer be used.	Need to confirm with the CM
10	Triathlon	Y	Alien Technology	1	1	None but they requested for generators and cable for internet	as per CM, alien technology will be provided by jay cheng
11	Duathlon	Y	Alien Technology	1	1	None but they requested for generators and cable for internet	
12	Windsurfing	Y	-	1	0	They requested internet that is going to be used in the boat for the result (boat - OVR). The VM was asking about the wifi on lighthouse	Encoded via web result (excel file)
13	Sailing	Y	-	1	0	They requested internet that is going to be used in the boat for the result (boat - OVR). Also, requesting for the internet on the venue.	Encoded via web result (excel file)
14	Shooting	Y	SIUS	1	1	None	They ordered the scoring equipment
15	Traditional Boat Race	Y	IMAS	1	1	None	
16	Canoe Kayak (Sprint and Slalom)	Y	IMAS	1	1	None	
17	Rowing	N	SEAGIS	1	1	Waiting for confirmation	IMAS / SWISS - Scoring system Need Photo Finish Camera and Scoring System from the SEAGIS Vendor, 500m and 1000m

METRO MANILA

MANUAL		PROVIDER	EQUIPMENT OVR T&S		AVAILABLE IT COMPONENTS IN THE VENUE		REMARKS
N	Tournament Software		1	1	Existing internet connection PLDT		
N	SEAGIS			1	They have existing internet connection	Not Sure	
Y	-		1	0	They have existing network but they will install high speed bandwidth supposed to be installed by pldt for games time only	encoded via web result	
N	Federation		1	1	Philcom is the internet provider of moa arena there are available landline and printer		
Y	Wireka		1	1	None		
Y	Federation		1	1	Existing Both landline and internet connected with PLDT	http://www.abf-online.org (link from CM)	
Y	Swiss Timing (Federation)		1	1	There will be internet and office set up but only in the PICC Convention Hall		
Y	Swiss Timing (Federation)		1	1	There is wifi provided by philcomcen also there are some available landline and printer set up in one of the rooms only		
Y	Finish Links and Seiko			1			
N	SEAGIS		1	1	none (under renovation)		
N	SEAGIS		1	1	none (under construction)	waiting for the final vendor	
N	SEAGIS		1	1	none		
Y	TBD (CANADIAN BRAND)		1	1	They have existing office set up and network but will be renovated for the game		
N	Asian Kickboxing Confederation		1	1	There will be internet and office set up thas has a connection		
Y	RFID		1	1	none	will interface with SEAGIS	
Y	SUIS		1	1	none		
Y	Written Manually			0	none		
Y	Written Manually			0	none		
Y	Written Manually		1	0	none		

Y	Written Manually	1	0	none	The score will be posted manually to the venue
Y	Written Manually	1	0	none (under renovation)	encoded via web result
Y	Written Manually	1	0	none (under renovation)	will Interface with SEAGIS
Y	Tournament Software	1	1	none (under construction)	
Y	KPNP	1	1	none (under renovation)	
N	SEAGIS	1	1	none (under renovation)	
Y	Data Project / Data Volley	1	1	none (under renovation)	
Y	SEAGIS	1	1		
Y	System for Scoring and Drawing of Athletes Software & Referee Deployment System	1	1	They have existing network and office set up but in the business center only	will Interface with SEAGIS Sports Data
Y	Fencing Time and KOOG	1	1		Fencing Time will interface with SEAGIS

SCHEDULE OF TEST EVENTS

EVENT	DATE
Indoor Volleyball	October 4-6, 2019
Modern Pentathlon	October 9-10, 2019
Petanque	October 25-28, 2019
Athletics	October 26-27, 2019
Aquatics	October 26-27, 2019
Esports	November 4, 2019

ANNEX D

LIST OF SPORTS WITH LIVE COVERAGE

LIST OF SPORTS WITH LIVE COVERAGE:

SPORTS	VENUE	CLUSTER
Swimming	New Clark City	Clark
Diving	New Clark City	Clark
Athletics (2 feeds)	New Clark City	Clark
Sepak Takraw	Subic Gymnasium	Subic
Table Tennis	Subic Bay Exhibition and Convention Center	Subic
Football (W)	Biñan Football Stadium	SOLA
Football (M)	RMSC Football Stadium	Manila
Basketball 5x5	MOA Arena	Manila
Basketball 3x3	Filoil Flying V Center	Manila
ESports	Filoil Flying V Center	Manila
Weightlifting	RMSC Basketball Coliseum	Manila
Taekwando	RMSC Basketball Coliseum	Manila
Gymnastics	PhilSports ULTRA	Manila
Billiards	Manila Hotel Tent	Manila
Wushu	WTC Halls A&B	Manila
Karatado	WTC Halls A&B	Manila
Volleyball	RMSC (Ninoy Aquino Stadium)	Manila