

Grid Computing and Online Games

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About Andago

Andago is an **SME** funded in 1996 by a group of IT engineers. Based in Madrid, Andago is independent of large financial groups and industries.

Andago offers IT engineering services based on **Open Source** technologies. Andago is specialist in consultancy, development and integration of solutions in systems and infrastructures.

Andago is a pioneer in the use and integration of Open Source technologies based on **Linux**. Andago has a team of professionals highly qualified and specialised in Open Source technologies, and it is the company with the greatest experience with Linux in the spanish market.

Our phylosophy is to provide integrated services that adds value, based on our professional experience, knowledge acquired by participating in relevant projects, investment in R&D projects, and selected alliances with leader companies (IBM, Sun, Novell, Red Hat).



About Andago: The team

- Andago team is formed by:
 - Direction: 2
 - Administrative: 1
 - Commercial: 3
 - R&D: 8
 - Operations: 16
- Andago evolution:
 - Planned to be sold during 2006: 2,6 millions €
 - Sold in 2005: 1,2 millions de €
 - Sold in 2004: 0,6 millions de €

About Andago: Main Projects

Profit Projects 2004

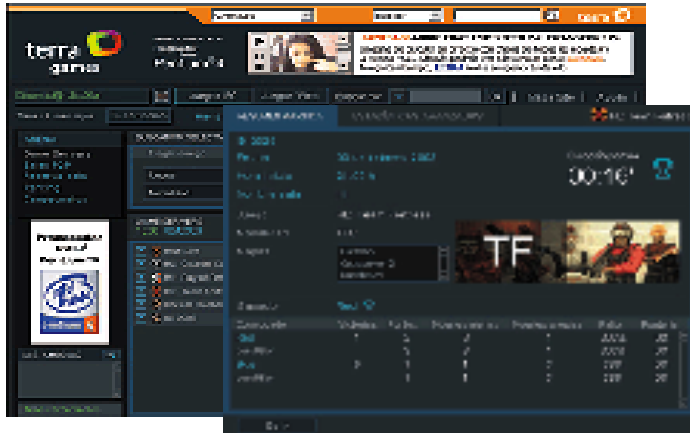
- Second Open Source in the Enterprise Report.
- On line Playstation 2 Game Platform.
- On line Entertainment Platform for Playstation2.

Profit Projects 2005

- TOMAS: Management for Distributed Networks.
- OpenCities: eGovernment
- Mini-clusters Management

Projects FP6 – Call5

- Beingrid



Online Game platform that provides the technology needed to provision entertainment services.

Study Case: *Terra Games*

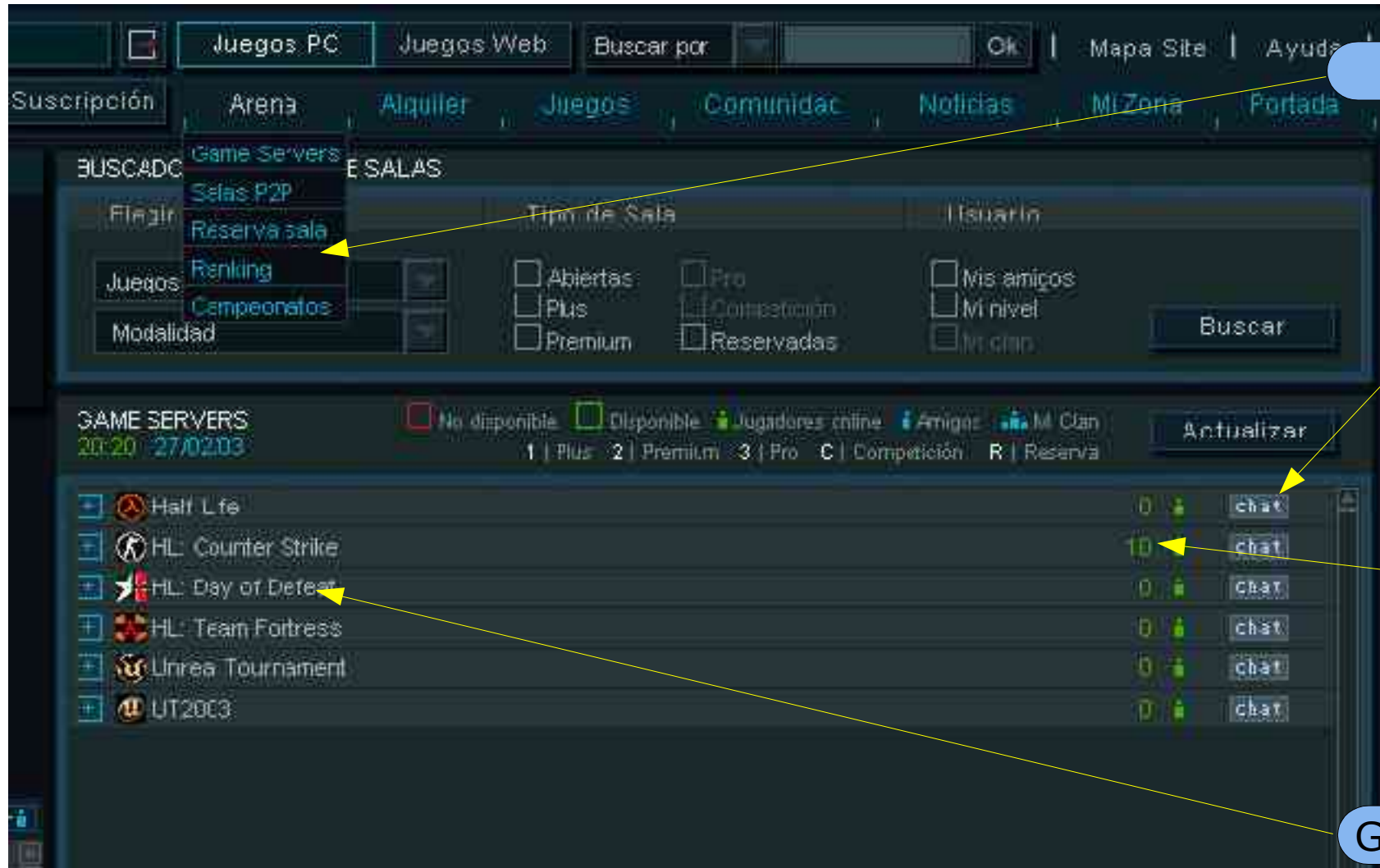
Functionality for USERS

- Tournaments/Leagues
- Advanced games Configuration
- Advanced Game statistics
- User & Clan Statistics/ Rankings
- Server reservation
- Chat and Instant Messaging
- List of friends/enemies

Functionality for the PORTAL

- Pay per Play
- Pay per Subscription
- Server management
- Firewall/Port management
- Usage statistics
- Interface Customization
- Quality Measurement
- Profiles/Domains
- Event Management

Andago Entertainment: Arena



The screenshot shows the 'Arena' section of the Andago website. At the top, there are navigation tabs for 'Juegos PC', 'Juegos Web', and a search bar. Below this, a menu includes 'Suscripción', 'Arena', 'Alquiler', 'Juegos', 'Comunidad', 'Noticias', 'Mi Zona', and 'Portada'. The main content area is titled 'E SALAS' and features a search filter section with checkboxes for 'Abiertas', 'Plus', 'Premium', 'Pro', 'Competición', and 'Reservadas'. A 'Buscar' button is located to the right of these filters. Below the filters, a 'GAME SERVERS' section displays a list of servers with columns for game type, status, online players, and a 'chat' button. The servers listed are: Half Life, HL: Counter Strike, HL: Day of Defeat, HL: Team Fortress, Unrea Tournament, and UT2003. The 'HL: Day of Defeat' server shows 10 online users. Annotations with yellow arrows point from blue callout boxes to specific elements: 'Game Services' points to the 'Reserva sala' link; 'Chat Services' points to the 'chat' button for the HL: Counter Strike server; 'Online Users' points to the number '10' in the HL: Day of Defeat row; and 'Games Servers' points to the entire server list.

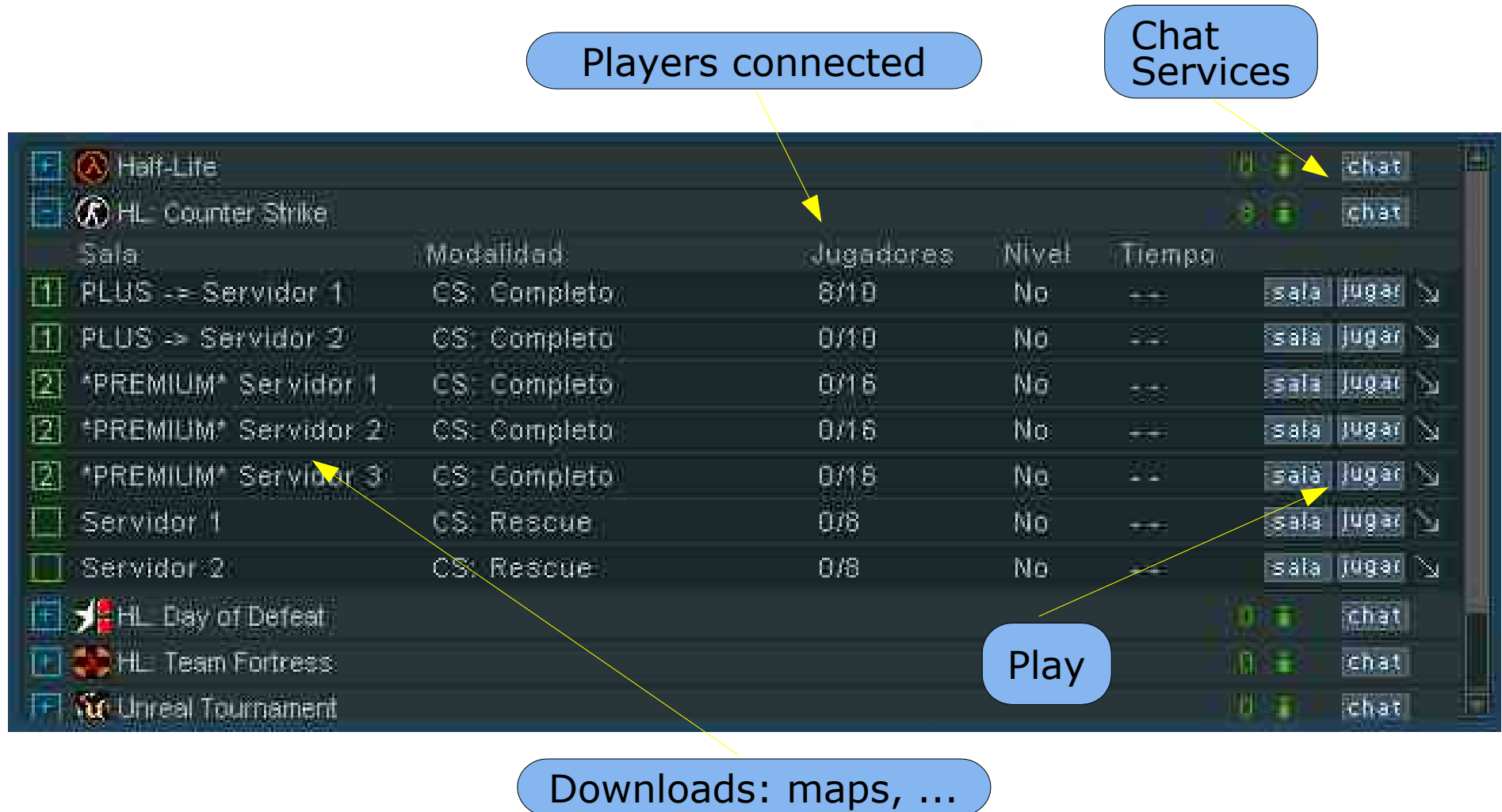
Game Services

Chat Services

Online Users

Games Servers

Andago Entertainment: Games Matches



The screenshot shows a game server browser interface with several annotations:

- Players connected:** A blue callout box with an arrow pointing to the 'Jugadores' column of the server list.
- Chat Services:** A blue callout box with an arrow pointing to the 'chat' buttons in the top right of the server list.
- Downloads: maps, ...:** A blue callout box with an arrow pointing to the server name 'Servidor 3' in the 'Sala' column.
- Play:** A blue callout box with an arrow pointing to the 'jugar' button in the rightmost column of the server list.

Sala	Modalidad	Jugadores	Nivel	Tiempo	chat
PLUS => Servidor 1	CS: Completo	8/10	No	---	sala jugar
PLUS => Servidor 2	CS: Completo	0/10	No	---	sala jugar
PREMIUM Servidor 1	CS: Completo	0/16	No	---	sala jugar
PREMIUM Servidor 2	CS: Completo	0/16	No	---	sala jugar
PREMIUM Servidor 3	CS: Completo	0/16	No	---	sala jugar
Servidor 1	CS: Rescue	0/8	No	---	sala jugar
Servidor 2	CS: Rescue	0/8	No	---	sala jugar

Andago Entertainment: Game Details

Juego: HL: Counter Strike
Sala: Abierta
Puntuable ranking: No
Nivel en sala: 0/0 (mejor/medio)



Modalidad: CS: Completo
Rotación mapas: 20 min.
Jugadores: 9 / 10

Listado de mapas

- Vertigo
- Vegas
- Train
- Prodigy

Jugadores	Ciudad	Puntos	Ranking	Nivel	Ping
reivaj	CORNELLA DE LLOBREGAT	5	3	0	77
morepyz		0	7	0	96
epi	MAJADAHONDA	11	1	0	79
passot	PALMA DE MALLORCA	11	2	0	86
ejidoracista	EL EJIDO	3	4	0	118

Salir Sala Jugar

Players List


Maps

Players Information

Andago Entertainment: Room reservation

GESTIÓN DE RESERVAS HACER NUEVA RESERVA

Selección de Juegos Selección de Fecha



Enero 2003							Febrero 2003							Marzo 2003						
L	M	M	J	V	S	D	L	M	M	J	V	S	D	L	M	M	J	V	S	D
			1	2	3	4	5					1	2					1	2	
6	7	8	9	10	11	12	3	4	5	6	7	8	9	3	4	5	6	7	8	9
13	14	15	16	17	18	19	10	11	12	13	14	15	16	10	11	12	13	14	15	16
20	21	22	23	24	25	26	17	18	19	20	21	22	23	17	18	19	20	21	22	23
27	28	29	30	31			24	25	26	27	28			24	25	26	27	28	29	30
														31						

Disponibilidad Salas

Juego:	Hora:	Slots (30 min.)		Hora:	Slots (30 min.)	
Half-Life	00:00			12:00		
Fecha: 27-feb-2003	01:00			13:00		
	02:00			14:00		
	03:00			15:00		
	04:00			16:00		
	05:00			17:00		
	06:00			18:00		
	07:00			19:00		
	08:00			20:00		
	09:00			21:00		
	10:00			22:00		
	11:00			23:00		

Disponible
 No Disponible

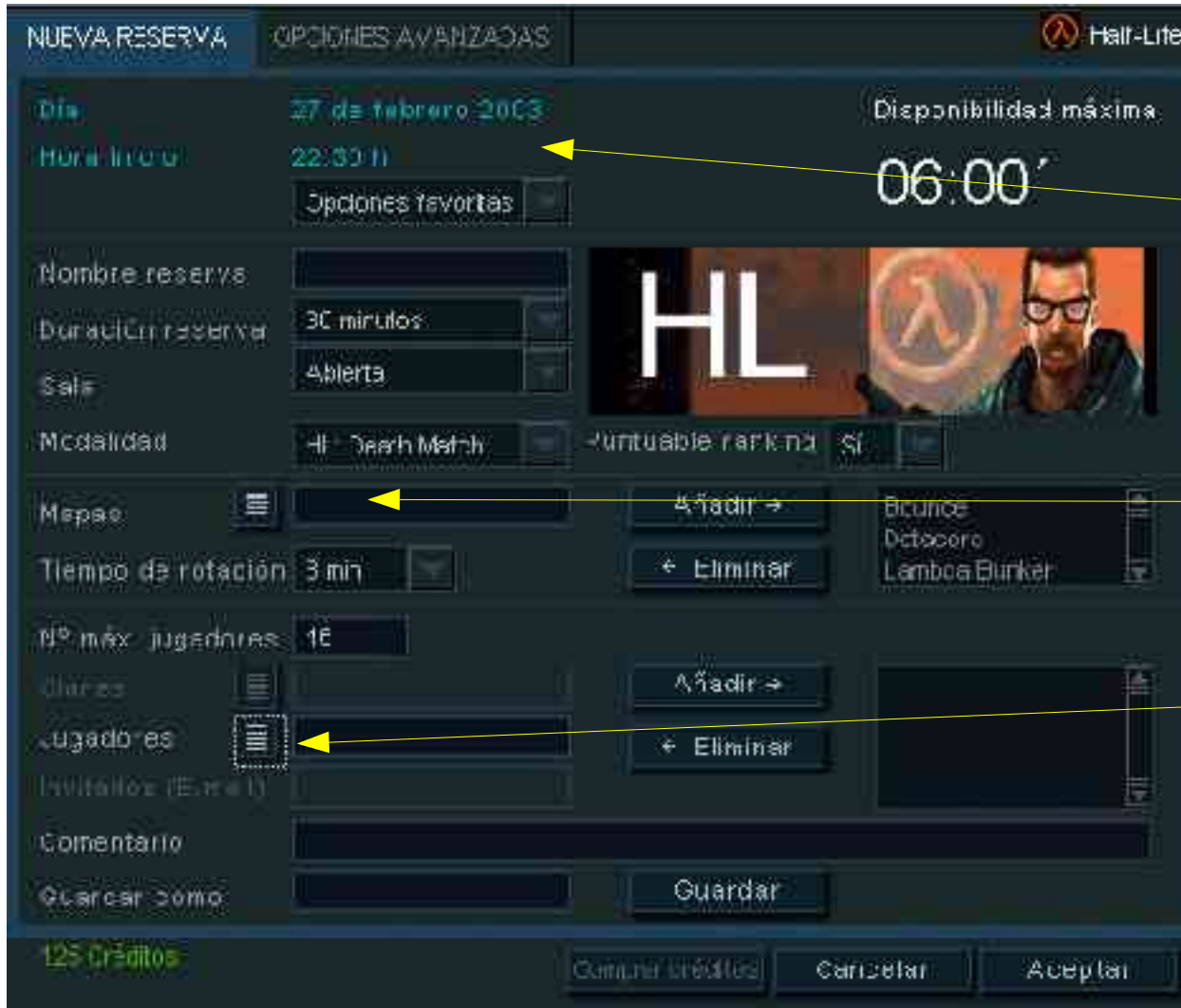
Actualizar

game

Room availability

slots

Andago Entertainment: Reserve details



The screenshot shows a reservation form for a Half-Life match. The form is divided into several sections:

- Header:** "NUEVA RESERVA" and "OPCIONES AVANZADAS". A "Half-Life" logo is in the top right.
- Date and Time:** "Día: 27 de febrero 2003" and "Hora inicio: 22:30:11". A "Disponibilidad máxima: 06:00'" label is positioned above the time field.
- Match Details:** "Nombre reserva", "Duración reserva: 30 minutos", "Salida: Abierta", "Modalidad: HL Search Match", and "Rotable ranking: SI".
- Maps:** A list of maps including "Brnoce", "Octocero", and "Lambca Bunker".
- Game Settings:** "Tiempo de rotación: 3 min" and "Nº máx jugadores: 16".
- Guests:** A list of invited players.
- Footer:** "Comentar", "Guardar", and "Guardar como" buttons. A "125 Créditos" indicator is at the bottom left.

Reserve Data

Maps

Guests

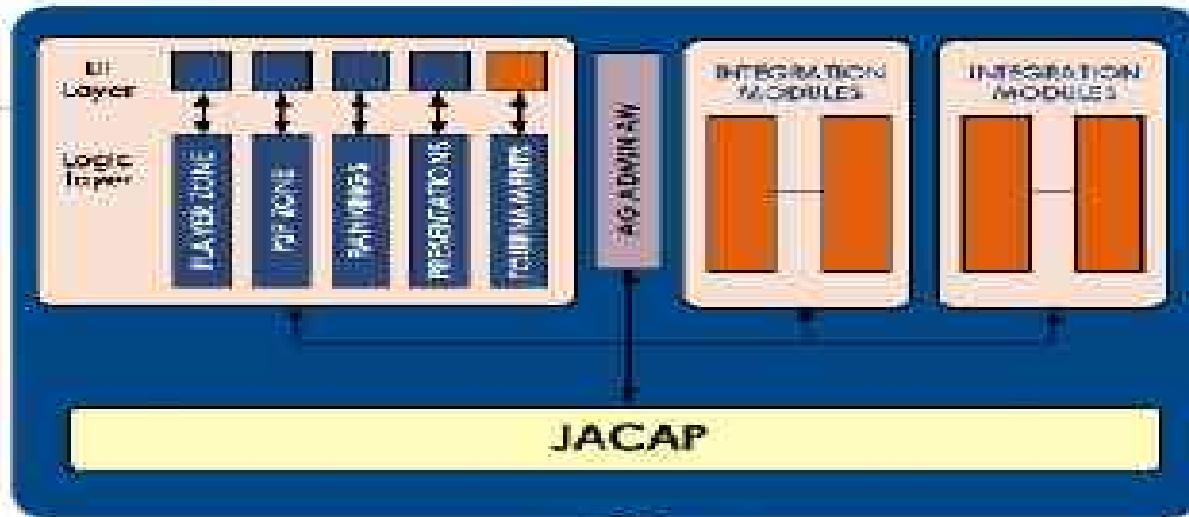
LAUNCHER



Game title



MIDDLEWARE:
J2EE APP SERVER,
RELATIONAL
DATABASE



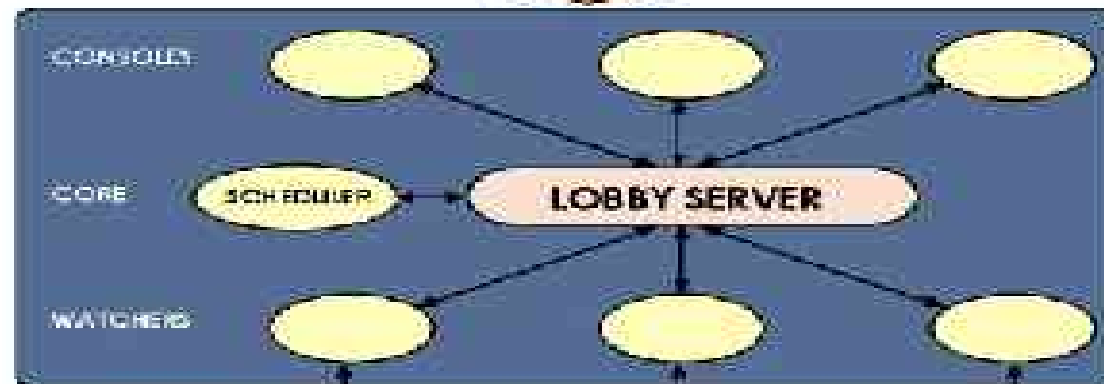
ANDAGO GAMES
BUSINESS LAYER



ANDAGO GAMES
DEVELOPMENT KIT



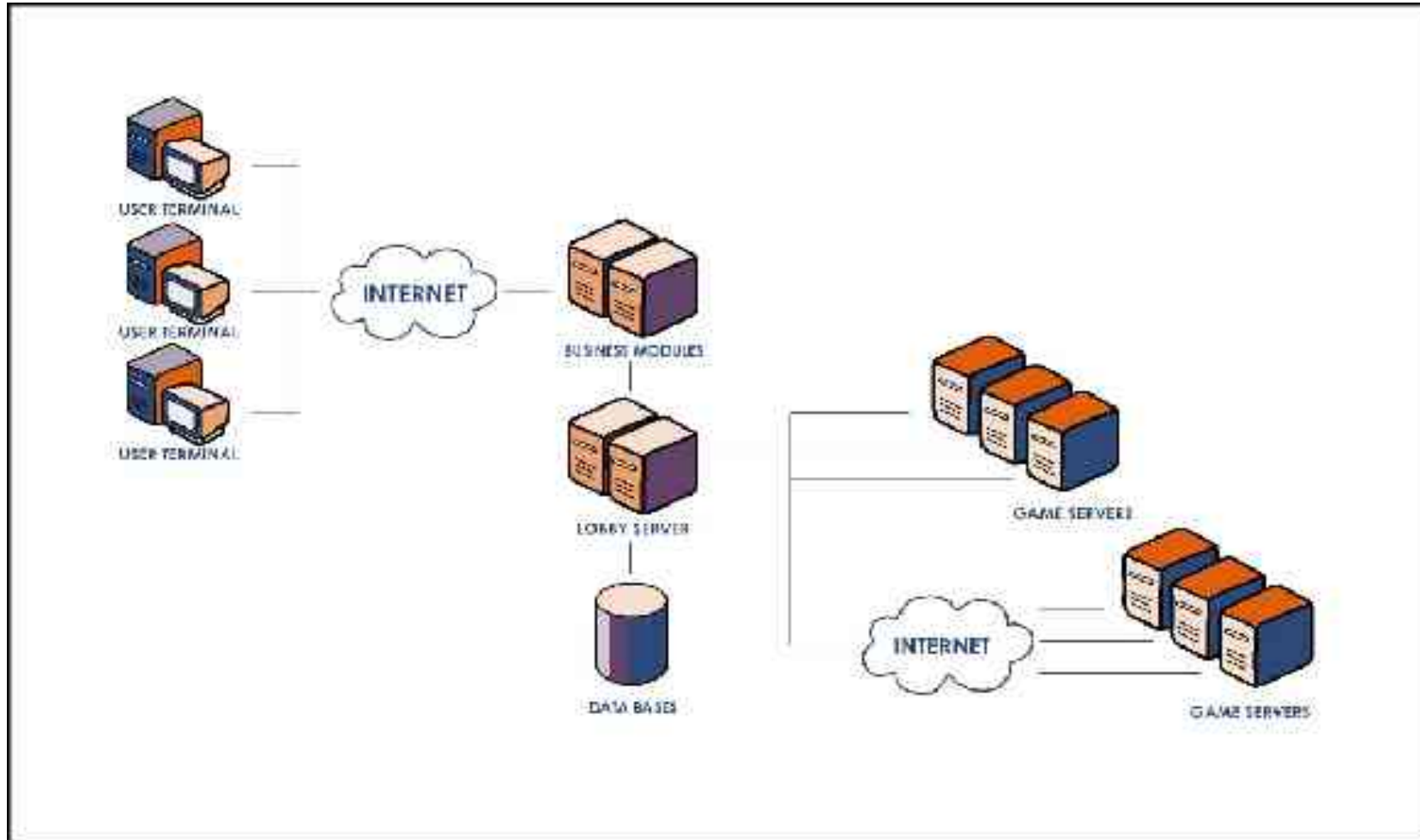
ANDAGO GAMES
MIDDLEWARE



GAME
SERVERS



Andago Entertainment: Simplified Architecture



Funding:

- ◆ Hardware strong investment.
- ◆ Design in order to support load peaks.
- ◆ High numbers of users required
- ◆ European market is fragmented

Coordination:

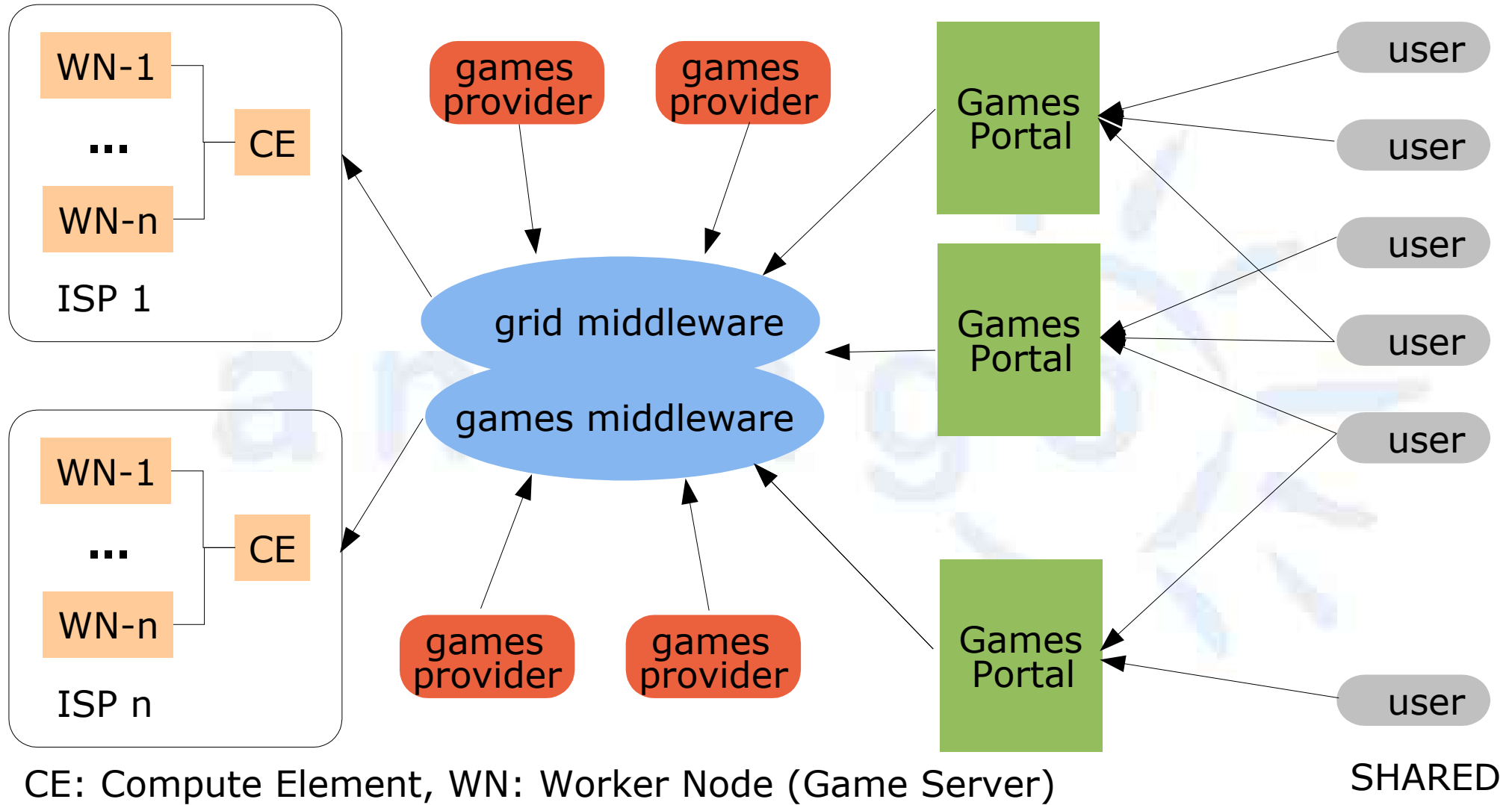
- ◆ Cooperation between several entities like:
- ◆ Games developers.
- ◆ Access portal.
- ◆ ASP (ISP) or Telco
- ◆ Game platform.

Merge grid technology with Andago Games middleware
Share resources: users, games, portals, servers

- Portals will use the grid system to connect to game servers:
 - Several portals could use independently the platform.
 - Portals will share games
 - Portals will share users
- Games Providers independent of portals
- Game servers will be managed by grid middleware:
 - Flexibility to join the game servers network.
- Common european base of users

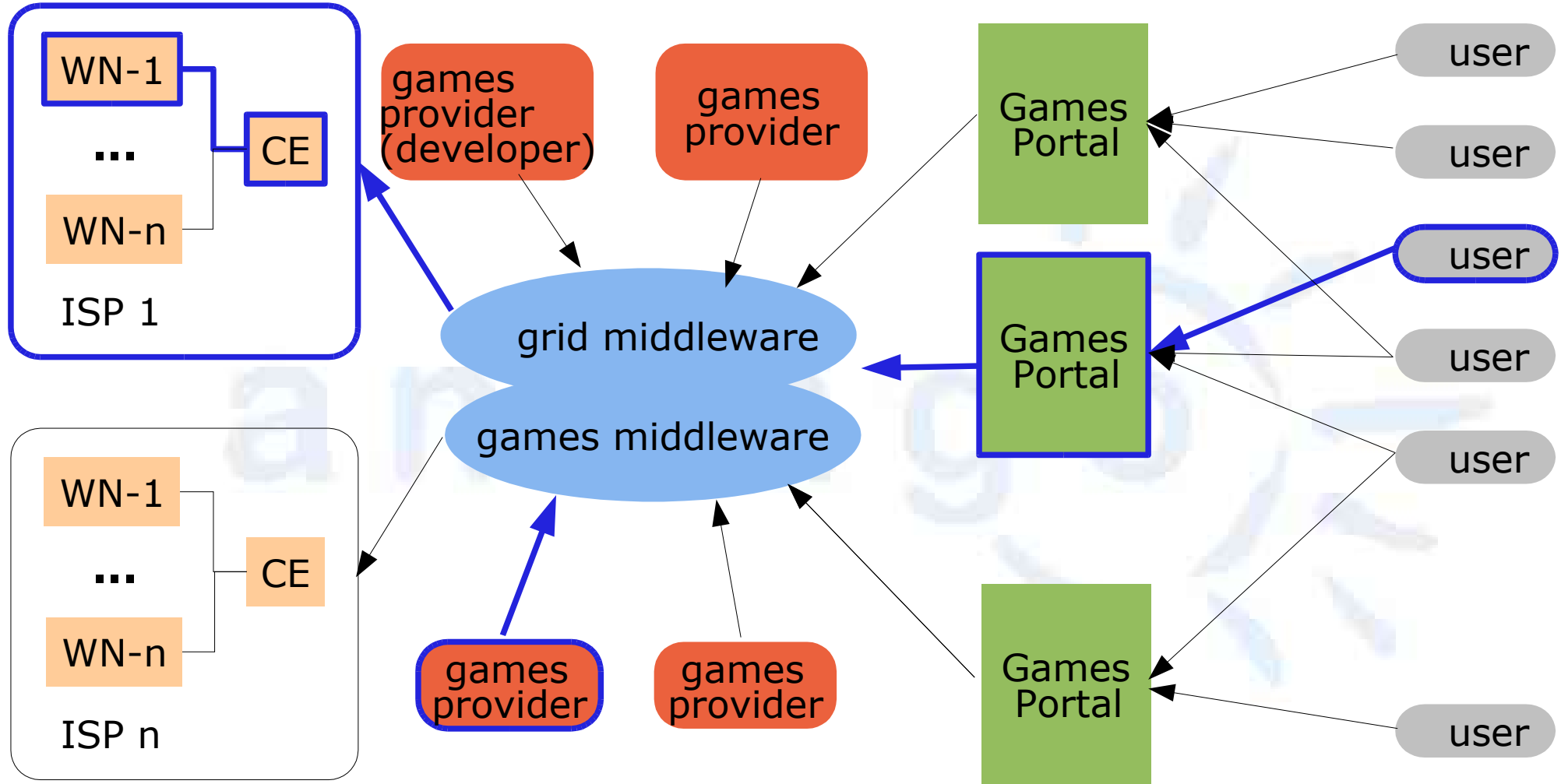


Andago Games + Grid Middleware





Andago Games + Grid Middleware



CE: Compute Element, WN: Worker Node

Funding:

- ◆ Resources sharing.
- ◆ European global market.

Coordination:

- ◆ Virtual Organizations.

Added value:

- ◆ More complete services offer.
- ◆ Better quality.
- ◆ Cost reduced.



European community for services and users.

Conclusions

Grid technology will enable to reduce drastically the investments amount using the resources sharing and the creation of virtual organizations to explode the platform.

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