

# Three- and Five-Level Architectures of Internet Based Information Systems

Larysa Globa, Tetiana Kot

**Abstract** – Characteristic of Internet based information system (IBIS) is represented it's the main points of its functioning and design are discussed. The requirements to IBIS information-computation processes [1] are specified and IBIS architecture for requirements satisfaction is suggested.

**Keywords** - IBIS, distributed environment, business-processes (BP), computing processes (CP), data flows.

## I. INTRODUCTION

Information systems, which are global communication network-oriented (Internet-based), has become one of the most widespread software systems and are in great demand for today.

IBIS function in global environment (fig.1), support parallel work and intercommunication between great number of distributed users, providing them with variable services, including data communication and processing, different data type transfer with minimal delays, using distributed information-computation resources (DICR) and creating integrated global environment of complex communications and high performance computing. Being incredibly efficient for global communication and computing from one hand, IBIS functioning and its realization: providing minimal time of data transfer and processing, using and distribution of global resources for high-speed and high-performance computing, providing great number of users with variable services without delays, - all these are incredibly complex from the other hand.

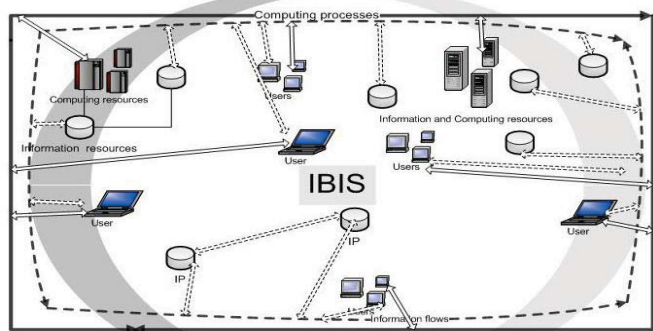


Fig.1. IBIS

## II. IBIS CHARACTERISTICS AND ARCHITECTURE

Besides distributed systems characteristics [2], relevant to IBIS, they have their own functioning and realization features. Here should be mentioned such IBIS features as service-oriented architecture; information and service support of

Larysa Globa, Tetiana Kot – NTUU “KPI”, Industrialnyy Side-Str.,2, Kyiv, 03056, UKRAINE, E-mail:lgloba@hotmail.com

distributed users intercommunication and work in global environment, storing network DICR and its efficient management, efficient realization of distributed high-performance computing, and lots of others. Thus, IBIS design and realization key points are:

- development of integrated information communication environment;

- support parallel work and intercommunication between great number of distributed users, providing them with variable services, including data communication and processing with minimal delays;

- efficient distribution of DICR great number for providing high-speed and high-performance distributed computing.

Realization of specified IBIS features can be achieved by using suggested IBIS five-tier architecture (fig.2) while its design.

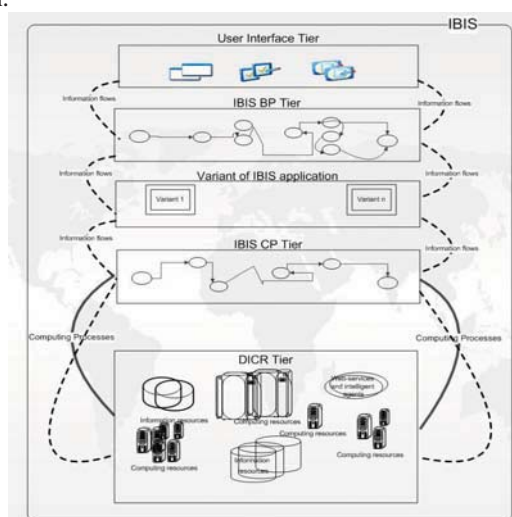


Fig.2. IBIS five-tier architecture

## III. CONCLUSION

IBIS are characterized and its design and realization features are specified. IBIS five-tier architecture, which is used when IBIS design, is suggested for IBIS functionality realization as integrated global-functioning complex software system, containing big number of software application, data sets and network DICR.

## REFERENCES

- [1] Globa Larysa, Kot Tatiana, Schill Alexander, Strunk Anja, "Method of IBIS design and workflow realization", "Polish J. of Environ. Stud ", Vol. 18, No. 4A (2009), p. 35-38.
- [2] Andrew S. Tanenbaum, Maarten Van Stehen, "Distributed Systems: Principles and Paradigms," Prentice-Hall, Inc. Upper Saddle River, NJ, USA, 2006, 686 pages.