شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

بالرسالة صفحات لم ترد بالأصل

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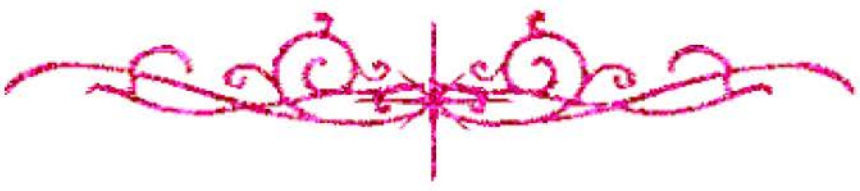
بعض الوثائق الأصلية تالفة



A Single System Image Supporting Distributed Objects

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Abstract

Nowadays, parallel systems, such as networks of heterogeneous workstations, are widely used to solve distributed applications. An easy way to implement such applications is the use of a distributed memory which is shared among all machines participating in the application. In such environment, failures, such as machine crashes, are harmful because of the possibly lost data due to the failure. In most cases the application is to be restarted from scratch.

If the application is a computational intensive one and if the handled data must remain alive to survive the application, failures must be handled dynamically.

Our solution to such problem adds an additional layer, called the *high availability layer*, to the shared memory architecture. Such layer includes mechanisms to handle the failures dynamically.

To implement such layer, the protocols introduced by the **TRansis**[1] system are used as well as the shared memory supported by the **LIPS**[2] system. Hence, we named the resulting system **TRIPS**. TRIPS is a way to achieve a unified view[3] to the shared memory among all nodes in the parallel machine in spite of the failures. Its aim is to establish a protocol to achieve a *Single System Image*.

[1] A Group Communication system implemented at the labs of the Hebrew University of Jursalem.

[2] Library for parallel systems, A system designed and implemented in Saarbruecken university, Germany. It is used to distribute computational intensive applications on a net of approximately 250 machines.

[3] If the machines have identical copies of the shared memory, they have a unified view to it.

Dedications are not enough ...

To my *mother* for her love .... To my wife *Nesma* for her big heart ....

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