



## A High Availability solution for Bull Escala servers

# Application Roll-over Facility

Application Roll-over Facility, a solution developed by Bull, permits system administrators to easily move an application and its environment from a system to another system, in order to manage system workload issues, for maintenance purposes or in the event of hardware failures. Application Roll-over Facility provides low cost and easy to install application availability for the entire Escala range.

Application Roll-over Facility (ARF) is based on a standard cluster architecture with at least two nodes (servers or partitions) sharing one or several disk sub-systems. In case of system failure or simply for maintenance or administration purposes, the services associated with an application or a node can be activated on the backup node. ARF can also be proposed as a disaster recovery solution by using mirroring functionalities.

### Easy node installation and configuration

- use of simple menus;
- ability to quickly propagate the node definition across all the cluster nodes;
- ability to initiate snapshot creation for saving the topology and the cluster configuration.

### A scalable solution

- ability to easily add one or several nodes to the cluster, especially to rapidly adjust to workload changes on the system;
- no limitation on the number of nodes in the cluster.

### Easy-to-use flexibility

- automatic or manual failover of one or several applications from one node to the backup node;
- immediate visualization of the status of the main resources by the ARF Watch facility.

### Non-stop monitoring

- permanent checking of the availability of each node by a heartbeat mechanism;
- immediate notification to the system administrator in case of failure;
- event logging (trace files).

### Reduced costs

- a license price independent of the number of processors and partitions ;
- compatibility with the scripts written for HACMP.

### Professional services

Bull proposes a complete range of services from consulting to operational support, based on years of experience in business continuity on large production servers.



# Bull Escala servers designed for reliability

At the heart of this solution, the range of Bull Escala servers provides functionalities largely inspired by mainframe technologies. These functionalities enable a commitment to **business continuity** in large part due to the component redundancy, the failure prevention,

the error auto-correction mechanism and the integration of advanced diagnostic aids. With the AIX 5L™ v5.3 operating system, recognized for its reliability, its security and its standard compliancy, the Escala servers provide innovating **virtualization** and micro-partitionning features allowing

optimum use of resources. Finally, the **Power on Demand** (PoD) option allows the addition of processor and memory resources as required. Installed on the system, they are activated only in case of peaks of activity or additional workloads, for example in case of the application failover by ARF.

## ARF technical specifications

### Architecture

Supported servers	Bull Escala server with minimum of AIX 5L v5.1
Maximal number of supported nodes	unlimited
Heartbeat	Ethernet, IP on Fiber or RS232 serial line with PPP (Point-to Point Protocol Subsystem) for two node configurations.
Supported disks	External Ultra SCSI disks Bull StoreWay FDA or EMC Clariion (CX or AX) disk subsystems
Components which can be taken into account	Applications, nodes, disks
Addition of a node to the cluster	Yes
Disaster Recovery	Yes, with AIX™ mirroring, Mirrorview between CX disks or FDA Remote Data Replication between FDA disk subsystems.

### Functionalities

Network redundancy management	Provided by the Etherchannel feature of AIX™
Type of application failover	Automatic or manual
Time for detection and application failover	<2mn (without application reactivation)
Concurrent access to a database	No
Failover configuration	Simple recovery scenarios
Application reintegration to original node after recovery	On system administrator decision
Application failover between partitions	Yes
Supported applications	Unique restriction: applications not supporting IP aliasing
Several applications on the same node	Yes, each of them accessible with its own network address
Integration of partitioning technologies	Yes through application restart scripts

### Cluster management

Node Installation and configuration	SMIT (System Management Interface Tool)
Propagation of a node configuration across all the cluster nodes	Yes
Snapshot creation	Yes
Error notification	Yes
Event traceability	Yes with log files
Management console	No
Visualization of the cluster status	Oui avec l'utilitaire ARF Watch
Workload management	Yes with WLM

### Licenses

License type	1 license per node, dependent of the system class
--------------	---

©Bull SAS – February 2006 - RCS Versailles B 642 058 739 – All of the brands mentioned in this document are the property of their respective holders. Bull reserves the right to modify this document at any time without prior notice. Some offerings or components of offerings described in this document may not be available locally. Please contact your local Bull representative to learn about offerings available in your country. This document does not constitute a contractual commitment.