

# Product Brochure

---

## **LanderCluster**6

### Intelligent Early-warning HA Cluster

This brochure describes the characteristics and functions of LanderCluster software.

Copyright 2000'-2010' Lander Software Corporation.

All rights reserved.

Lander Software Technology., Co., Ltd.

[www.landsoft.com](http://www.landsoft.com)

[www.landercluster.com](http://www.landercluster.com)





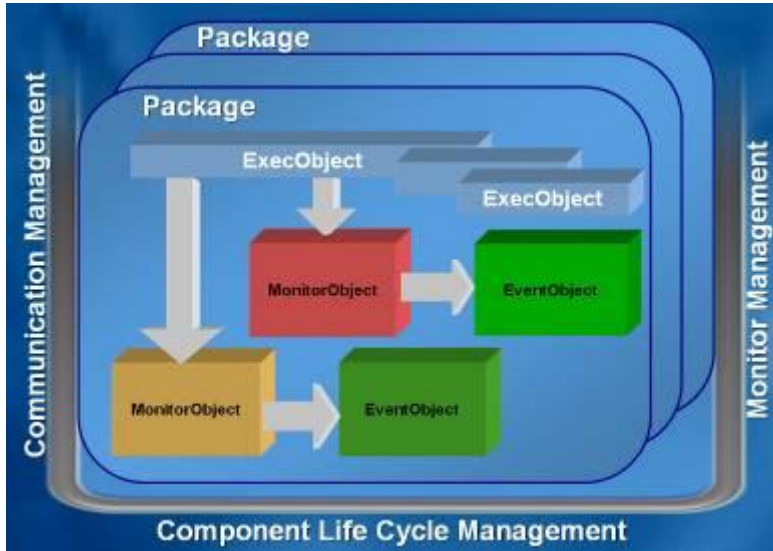
## Overview:

New version of LanderCluster system is a high availability cluster system of LanderVault , that responsible for the protection of critical business applications from software and hardware failures. Creative conception of the "fault grading" has been taken into the "smart sensing" systems in LanderCluster, it completes subversion the traditional high-availability cluster system's simple way to determine the failure of server .Traditional high-availability systems only "failure" caused by the results of ( such as downtime) upgraded to respond to the "failure" of the causes (system health indicators) for monitoring and analysis, with the unique "fault warning" mechanism, the core system will have serious implications for the continued operation of the business before the timely issue of "early warning "and, where necessary, self-executing accurate and rapid fault isolation and application of transfer, will be upgraded to deal with failure after failure to predict in advance, and fully safeguard the core of the application of 7 × 24 hours a reliable operation can support up to 64 nodes applications, as well as local area network (LAN) or wide area network (WAN) on the client to provide high-availability services.

LanderCluster monitoring the status of each node, and react very quickly when fault appears, so that applications will not be stopped by single point of failure and suspension of services,. LanderCluster can automatically detect the health status of the CPU, memory, LAN media, storage equipment, card, process, application continues , and the definition of a variety of conditions to trigger a state of the cluster classification and grading of the failure to respond.

## New architecture:

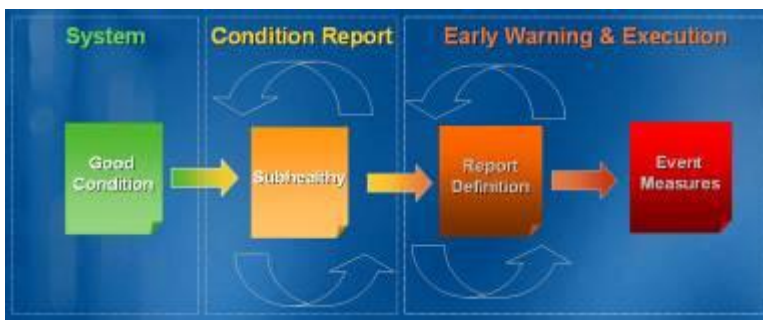
LanderCluster innovative architecture-oriented "object" as the core, including: IPAddress, Alias, Volume, Process, Service, CPU, Memory, Network and so on, each object has its own properties, methods, events. Cluster containers interface is a big pool, cluster responsible for the management of the life cycle of these objects, an object provided for each service interface.



## Unique advantages:

### 1. The wisdom of the system health and availability of evaluation system

The key factor of a critical business system can be used or not is the health of the entire system, it is very simple way for the traditional high-availability systems , that only "available" and "not available" two states, so that although the judge considered is very simple , but the status of the two extremes, apparently unable to conduct a comprehensive protection system. LanderCluster 6.0 put forward a creative "system health assessment system" and to apply them the first time in the industry, we believe that the availability of the system must be continued to determine, rather than extreme, a large number of cases can make the system from the "available" to "not available " is not a transient occurrence, and there is a process, in the whole process, first there will some of the core indicators show unusual of the system , although at this time to demonstrate the system's still as" available ", but the entire system has been in the actual" Sub-health ", the request of the client response to the gradual slowing down, the system signs of instability, the system 里



gradually to reduce the overall availability, if we do not carry out any intervention, the system will be in the future when there is a great potential into a real" is not available ", thus leading to disastrous consequences. Through the

"system of health evaluation system " new detection system of LanderCluster 6.0 , the core indicators of sustainable features, users will be to detect the abnormal state of the system, effective system is to determine the true "health" level of the system and has gone through a comprehensive analysis of the core indicators, the system will be the situation may occur in the future to "predict", causing Live system to "unavailable" reason for early discovery, early warning, early settlement of the user from the "passive" solutions to "active" discovery and processing, to determine the availability of the system from the "unknown" to "predictable".

## 2. Intelligent early warning system

To rescue the system after it completely paralyzed will be too late, as if for cardiac arrest patients to recover, if we are able to predict the system will gradually become unstable, and to respond in advance to prevent a system crash, or unexpected downtime into planned maintenance, you will get more benefits. Early warning system of Intelligent LanderCluster system, through the acquisition "system health assessment system", continuous monitoring system to maintain the stable operation of the core of an important indicator of changes, including CPUs, memory, LAN media, storage devices, card, process, application real-time status, any indicators of abnormal conditions, to respond quickly and take preventive measures.



## 3. Powerful fault classification process

Traditional cluster system software only define downtime as failure, but "failure" to merely "downtime" can not access it? Real "fault" system should be based on health status and the affordability of users, as measured by different users of the definition of system failure is different, LanderCluster classification of fault handling system able to meet the user-defined failure threshold, the establishment of different Fault evaluation criteria, and each type of fault customize operation, providing maximum flexibility. At the same time provide a rich plugin system to provide users with accurate fault analysis.



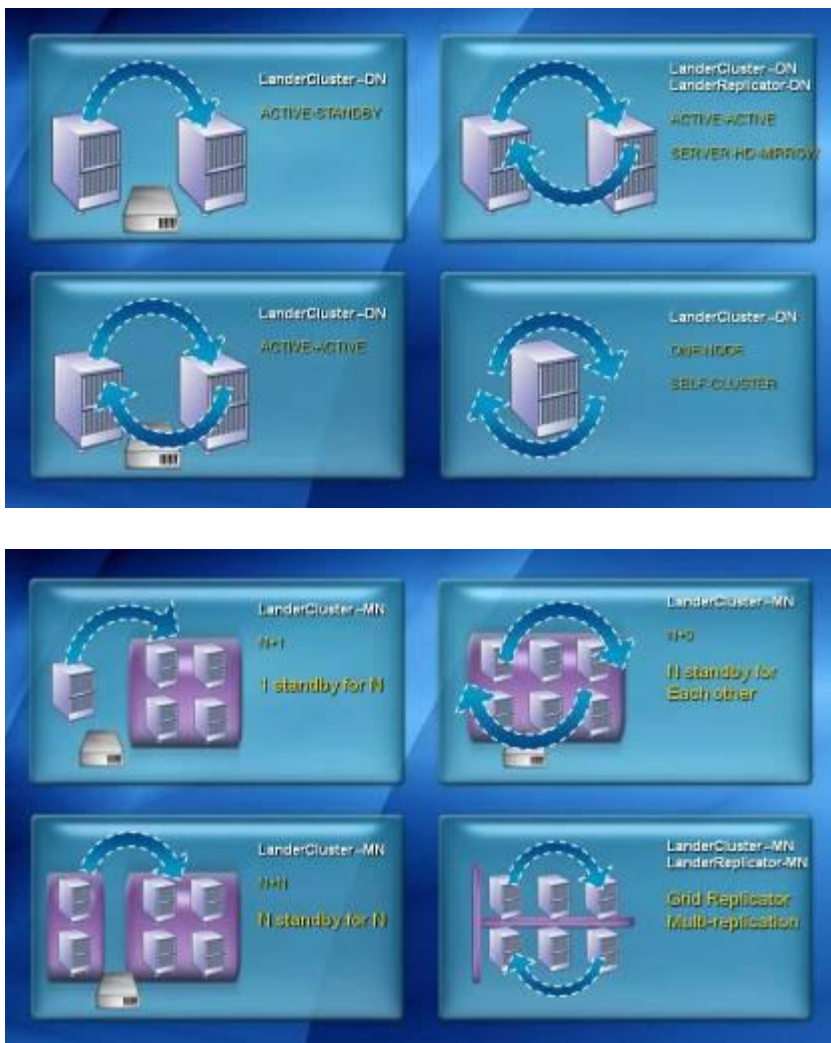
## 4. Cluster by business groups, a single cluster group supports up to 64 nodes and 64 tasks

Users of business-critical environments, from a logical analysis, can be divided into a number of relatively independent groups, each group, including a number of servers, including a number of function modules of LanderVault, LanderCluster support independent groups for critical business, it is easy to manage, we

have the deployment of server-related logic in a server group, and not related to the server logic into different server group. Servers in one group , you can build a cluster, replication, backup and disaster recovery system. LanderCluster in each group can support up to 64 nodes, and 64 management tasks at the same time,and fully meet the needs of large enterprise users, and easily to expand the system to provide sufficient function space for users.

### 5. Rich cluster redundant mode

Rich cluster support redundant mode, including: stand-alone high-availability, master-slave, active-to-active, multi-to-one, multi-to-multi, and preparation of multi-machine interoperability, dual-redundant storage, the pure soft clusters , long-distance cluster, virtual environment ,global cluster and so on, provide flexible cluster mode define.



### 6. Depth of user application detection agent

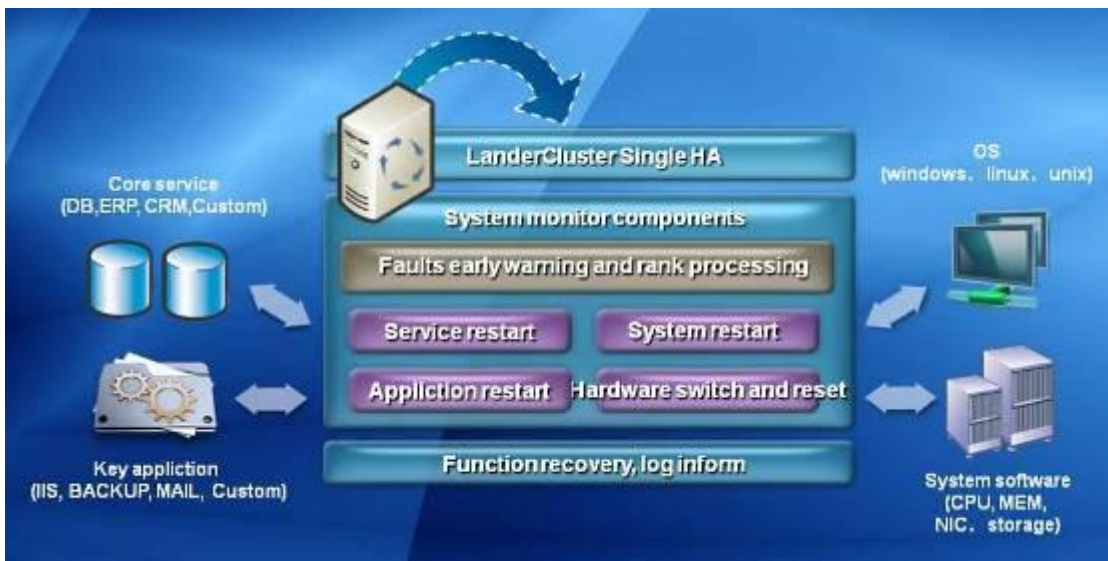
Critical business that under the protection of Cluster , collecting the status data through the agent of user applications in real-time, combined with "evaluation system" to diagnostic systems availability. The availability of indicators is divided into two types: one is the result of nature, that is, simulation of the success of client access, whether the desired response; the other type is risk categories, reflecting that the

system is currently running the risk status, such as the currently number of connections to application , the storage space usage of database, Web access delay, network traffic, CPU load, system memory usage rate and so on, these factors can make the system working in the potential risk of failure, and it is important base forecasts for early-warning system .

LanderCluster 6.0 software to provide commonly used application agents, such as Oracle, MS-Sql etc., the interface and method monitor data of the object was kept in a flexible XML configuration file. Clusters provide an open application proxy interface, user can develop in accordance with the templates provide by LanderCluster, custom indicators to monitor the target acquisition method, the system allows real-time monitoring of the cluster of these indicators, trigger-related event.

### 7. Stand-alone high-availability(for single server)

For some users ,they have only a single application, and they have not so much budget to build up a cluster environment, so they consider using a server for this business operations. In the past, the availability of such systems could not effectively protect the user, the user can not guarantee a reliable system, their critical application remains running in risk. Now, LanderCluster able to provide these users with high availability of stand-alone HA solution so as to avoid system problems. LanderCluster can monitoring the machine at real-time, and repair the system automatic when error occurred , so that the system can get the same protect of HA.



### 8. Enhanced centralized of cross-platform management

Critical business systems are often running on different OS platform, a large number of discrete environment will greatly increase the complexity of the administrators, reducing overall system reliability. LanderVault technology is JAVA based applications, to achieve a comprehensive cross-platform management, allowing users of different platforms in a unified management of the cluster, in the different platforms have a unified interface, enhanced LanderVault through centralized management platform, users can fully focus on monitoring and management the resources group , such as the server storage resources, network load, the system processes, system services and processes on the target servers and services to operate, thereby greatly simplifying the complexity of centralized management.

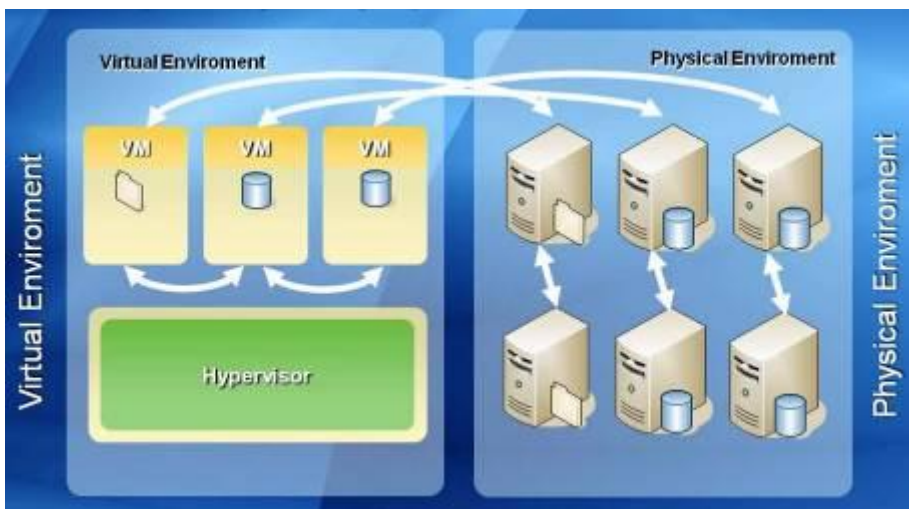
(Localhost):Storage			
Device	MountPoint	Size(M)	Used(M)
C	C	30225	12303
D	D	41528	33550
E	E	0	0

(Localhost):Network						
Device Name	IP Address	NetMask	BoardCast	GateWay	Mac Address	Description
{E458031A-...	192.168.2.100	255.255.255.0		192.168.8.254	001B243CC...	Broadcom N...
{E458031A-...	192.168.8.100	255.255.255.0		192.168.8.254	001B243CC...	Broadcom N...
{4F44FAED-...	0.0.0.0	0.0.0.0			001B77083...	Intel(R) PRO...
{93F2727A-...	192.168.75.1	255.255.255.0			005056C00...	VMware Virt...
{99A2B6FC-...	192.168.64.1	255.255.255.0			005056C00...	VMware Virt...

(Localhost):Process	
Pid	Name
0	[System Process]
4	System
1172	smss.exe
1452	csrss.exe
1744	winlogon.exe
1888	services.exe
1976	lsass.exe
1236	ibmpmsvc.exe

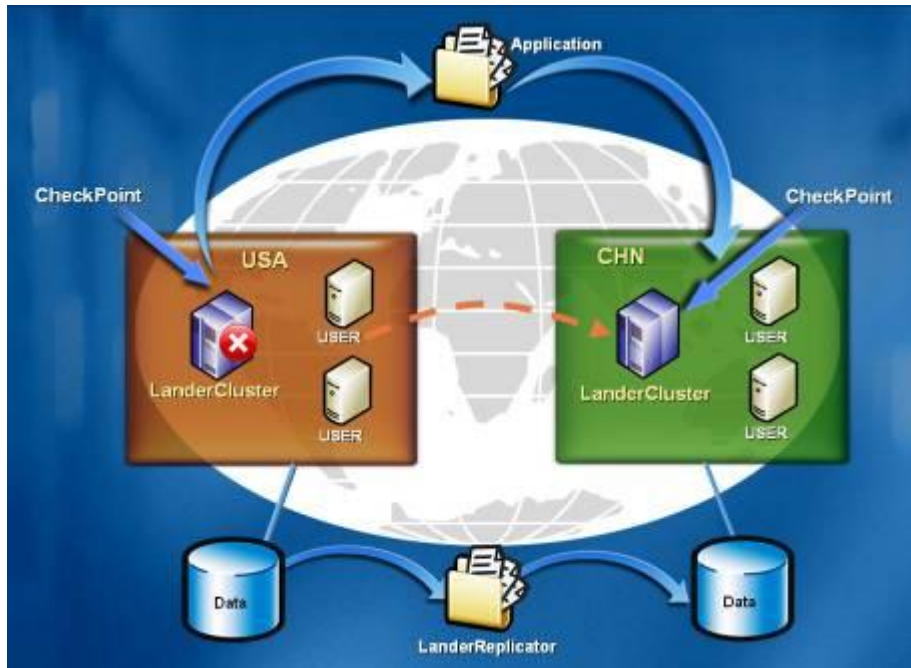
**9. Support virtual machine environment**

The growing maturity of virtualization technology, virtualization software and hardware technology continues to expand, the application of the user is very likely to run in a virtual environment in the future, in the re-integration of virtualization technology and the allocation of resources at the same time users of the system availability requirements of the overall change more demanding, a virtual environment to run a number of the server the event of failure will directly affect all of its virtual system, the loss of far more serious a few times a single system environment. A single virtual system failures also need to failover, LanderCluster ahead of support for storage virtualization environment to support virtual operating system environment ,such as VMware, support freed switch between single virtual system .



## 10. Support clusters in WAN environment

With the continuous expansion of the user agencies, the core business of increasing the overall system users the ability to resist disasters higher requirements, a simple LAN environment high-availability systems will be extended to the wide area network environment for long-distance high-availability systems, disaster recovery became an important part of the system. LanderCluster fully supports the wide area network environment, and an increase of CheckPoint, to set up local area network and wide area network coexistence of the complexity of the environment, to provide users with more reliable protection.



## 11. Higher level of monitoring accuracy and faster switching speed

High Availability System protects users critical business, at the same time, the monitoring must have a very high accuracy of monitor speed and reduce the down time, LanderCluster through the use of unique multi-link MLDC data exchange protocol , the application of up to 5-tire link detection, monitoring to ensure accurate and reliable clusters, to avoid "split brain" phenomenon, and the application of fast fault detection and processing technology will be the system time to switch to "seconds" of the scope of the calculation, the maximum extent to reduce system downtime, enhance system availability.



## Compare with the traditional HA products

### During failure processing

Item	Traditional HA	LanderCluster
Before failure	Shall not be dealt with	The light of security status indicators, the system hardware, software, operating system, various types of indicators than the right, to give notice of information
System abnormalities in some indicators, But the system is still running	Shall not be dealt with	Refer to evaluation system, then execute the related condition
Some system procedure dead, System can not be used	With agent installed: switch Without agent installed:do nothing	Refer to fault classification, then execute the related fault process
Way to deal with failure	Passive solution	Take the initiative to solve

### Availability on the detection system

Item	Traditional HA	LanderCluster
Reference to factors	1-2	Multi
Methods to determine	Binary	Judged by the operating parameters, the evaluation system of scientific and rational
Accuracy	A single diagnosis, the less accurate	From the hardware, software and operating system point of view such as diagnosis, Accurate and reliable
Predictability	Unforeseen fault	For application software, operating system failures have a stronger predictability

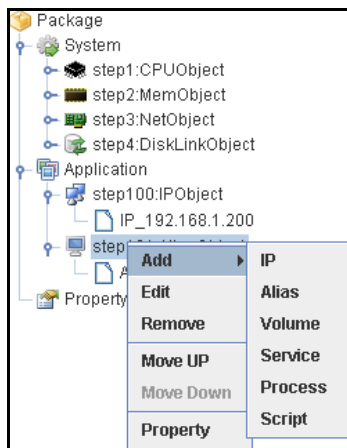
### In support of the application

Item	Traditional	LanderCluster
Interface mode	A small number of applications plug-ins No plug-in support for low-end products	For each type of application plug-ins Open and flexible interface can be developed in accordance with the template 2

Monitoring data	1	1 or Multi
Operating experience	Can not	Solution can be quantified
Application of available standards	N/A	Scientific evaluation system

## Key features

- Support windows, linux, unix system platform , support 32-bit and 64-bit operating system, Windows platform and Linux platform for a unified framework designed to support cross-platform clustering.
- Flexible custom application interface (MObject), all applications can meet the needs of monitoring.
- Supports a variety of switch strategies: master to backup node switch ,switch back mode, manual switching, the task load balancing mode.
- With the function of implementation tree , user can customize to switch when the cluster system to stop all kinds of resources and to start the implementation by the predefined order .



- support the difference storage architecture , such as FC, ISCSI, SCSI, and SAS, etc.

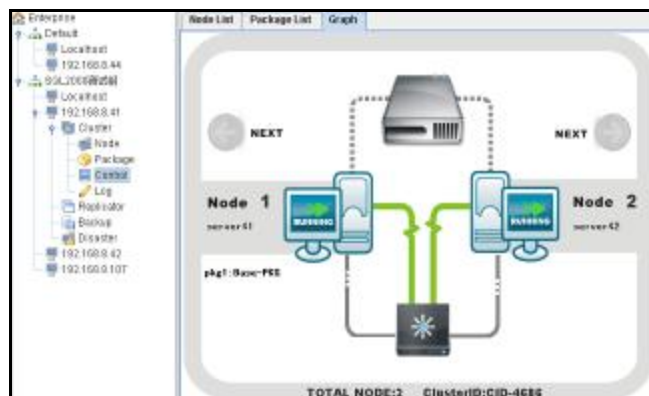


- Support for dynamic monitoring of cluster resources, the first use of "health system safety evaluation system" as a way to measure the availability of the cluster, the cluster system to change the traditional not "living" means "dead" to determine the dual approach, based on failure the seriousness of the events to do in response to different levels.

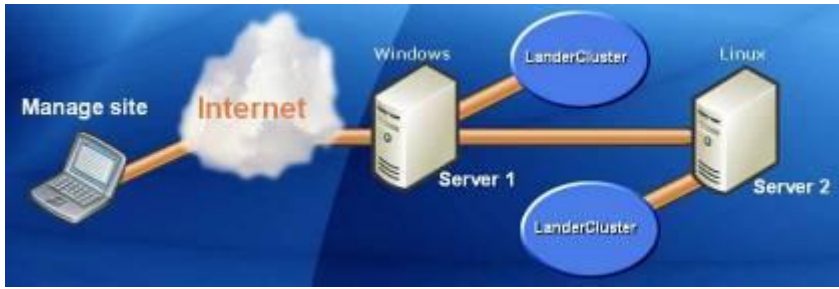
- Event Analyzer powerful technology to manage all the task scheduling and event-triggered, with artificial intelligence.
- Depth monitoring of professional plug-in agent , is the only cluster system currently that can define the available of number of concurrent users, table space utilization, as well as the process of occupation of CPU availability percentage of database system .
- Support multi-node grid of replication clusters, LanderReplicator module combination can be achieved in different places WAN high availability fault-tolerant environment; LanderDisaster disaster recovery modules and combined to achieve application-level remote disaster recovery.
- Improve self-monitoring of the cluster, the application process interlocking mechanism to maximize the protection of their own robust cluster system, to avoid the loss of the cluster funtion.



- cluster running status can be shown in an intuitive graphical interface so that the system administrator can easily deal with large-scale clustering environment.



- Through the B / S architecture of LanderVault, administrators can easily manage remote cluster resources and cluster groups.



- Application of RSA 1024-bit key encryption, to ensure safety of critical business data
- Support a variety of alarm mode (Mail、Voice、SMS);
- Support, English/Chinese language interface, a system log viewer, detailed system documentation and help manuals.

## LanderCluster6 parameters

Item	LanderCluster
Manufacturers	LanderSoft
Origin	China
Ease of use	There are commonly used templates, easy-to-use
Reliability	High
Max number of nodes	2-64
Max number of tasks	2-64
Num of communication link	4
Support Language	English/Chinese
Storage interface support	SCSI/FC/ISCSI/EXP/LVM
Cross-platform management	Support
Remote management	Support
CPU monitoring	continuous monitoring of CPU utilization , and support user define event
Memory monitoring	continuous monitoring the remaining amount of memory continue to monitor and and support user define event
Network load monitoring	continuous monitoring the load of network and and support user define event
Reference network point monitoring	continuous monitoring the reference network point and support user define event

Process occupy CPU monitoring	continuous monitoring the process occupy CPU and support user define event
Process occupy MEMEORY monitoring	continuous monitoring the process occupy MEMEORY and support user define event
User define event	Support
Switching response time of cluster	<15 S
Security Certification	RSA
Dynamic Package Load Balancing	Support
Work mode	Active/Standby Active/Active N→1 1→N N→M N→N
Alarm mode	User define event Voice/Mail/SMS
Encrypted transmission	RSA128



Shanghai Headquater

Tel: 021- 50187100

Fax: 021-50171523

Zip: 200126

Hotline: 800-820-1776

[www.landsoft.com](http://www.landsoft.com)

[www.landercluster.com](http://www.landercluster.com)