Datacenter Hosting and Cloud Computing Services

Overview

Lore Background

Founded in 1995, Lore Systems provides advanced technology solutions which enable better, more efficient and more secure ways for our clients to achieve their missions.

Lore Systems provides one of the most reliable, most secure and most efficient datacenter and cloud computing services available worldwide to hundreds of clients including Federal and State governments, Fortune 500 companies, international businesses, nonprofits, associations, and SMBs worldwide.

Lore Systems' full suite of datacenter solutions includes:

- Dedicated and fully managed hosting services in Tier 3 facilities
- Virtual Private Servers
- Cloud computing platform – Lore Enterprise Cloud
- Datacenter consolidation

- Infrastructure as a Service (IaaS)
- Platform as a Service (PaaS)
- Continuity of Operations/Disaster Recovery (COOP/DR)
- Managed colocation
- Storage as a Service
- Remote network monitoring – intrusion detection services

Value Proposition

With over 10 years of extensive experience with virtualization and hypervisor technology, and with 8 years of operational experience with our Lore Enterprise Cloud IaaS platform, Lore Systems is an industry pioneer in managed hosting and cloud computing.

Lore Systems provides end-to-end datacenter and cloud computing solutions with a complete range of services. Our Tier 3 carrier grade datacenter facilities provide uninterruptible and redundant power, overhead cabling, redundant Internet connections with 24-hour live monitoring, advanced video surveillance and physical security and state-of-the-art fire suppression and environmental controls for your ultimate peace of mind.

Our carrier-neutral colocation facilities allow over 160+ telecommunications carrier options, thereby giving you more interconnectivity choices, quicker time-to-market, a secure reliable environment, and a faster return on your investment. With today's economy changing at light speed, Lore Systems provides the flexible, scalable, and dynamic solutions our clients need to be successful.

At Lore Systems, our competitive differentiation is to make IT "Easier, Friendlier and More Reliable," for our clients. Our approach to business is to provide the most unique and user-friendly customer experience in the IT marketplace.

Features and Benefits

- SAS 70 certified datacenter facilities
- 24 x 7 x 365 availability
- Tier 3 datacenters with 99.99% uptime service levels
- State of the art datacenter presence with international locations
- Redundant, high-speed / high availability connections
- Fully customizable solutions to meet each customer's unique data and storage requirements
- Access to multiple international backbones (160 providers)
- Fully managed service / remote "smart" hands

Datacenter Services

Managed Hosting and Colocation

Lore Systems provides world class managed hosting and colocation solutions in our state of the art datacenters. Our carrier neutral facilities allow companies to choose from over 160 networks of the world's leading ISP providers. We are "on net" with minimal latency combined with the ability to provision bandwidth in a matter of hours. This allows for unparalleled control and flexibility in managing your infrastructure.

Virtualization

Energy consumption is a critical issue for organizations today, whether the goal is to reduce cost, or keep your network running. Businesses can reduce their data center energy costs and consumption by as much as 80-90% through virtualization. Virtualization allows you to do more with less, and to save significantly on recurring capital expenditures.

In addition, virtualization allows your systems to be more flexible in terms of testing applications, rapid provisioning of servers, scaling capacity, and providing redundancy within your environment.

Monitoring

Lore Systems manages and monitors infrastructure hardware, including but not limited to connectivity, server resources, disk space, utilization rates, all with real time reporting. This in turn allows for a centralized view of your entire infrastructure for optimum performance.

Server/Network Administration

Lore maintains and monitors all servers in your network. We install, configure, support, and troubleshoot many different platforms including but not limited to: Exchange, SharePoint, SQL Servers and Linux. We also maintain and monitor all switches, routers, and firewalls for a successful network and continued security and up time.

IT Help Desk

The IT support help desk is a strategic element of an overall service management strategy. Lore Systems effectively integrates people, processes, and technology in scalable help-desk solutions. Help Desk engineers use our innovative Remote System Monitoring application to provide state-of-the-art software maintenance and system troubleshooting for our customers, 24 hours a day, 7 days a week.

Network Assessments

Lore will provide an in depth assessment of your network, applications, and databases to probe for vulnerability, increase performance, enhance your network stability and scalability, ensure redundancy, and identify cost reduction opportunities.

We can conduct cost-benefit analyses for a variety of potential managed hosting, colocation, dedicated VPS, and cloud computing options.

Cloud Computing

Overview of Cloud Computing

"Cloud Computing" is the ability to distribute data and/or applications from fewer, more centralized resources, to multiple users. This is not a new concept (think "Mainframe computing," "Application Service Provider," or "Software as a Service").

The growth of today's Cloud Computing model has been fueled by high-speed internet access, combined with the convergence of many hardware and software computing technologies. Most Federal agencies and Fortune 500 corporations are in the process of aggressively adopting Cloud Computing.

All mainstream business applications are "cloud friendly." Applications perform just as well, if not better, in a Cloud environment. Data is protected in the Cloud by the same means as it is protected in the physical environment.

Key benefits include system and data reliability, scalability, security, rapid provisioning, no up-front capital expenditures, and a "pay as you use" subscription model.

Dedicated VPS

Lore Systems designs, hosts and manages dedicated Virtual Private Server (VPS) environments for clients who wish to own their own "Cloud Computing" platform. We have expertise with the major virtualization technologies from VMware, Citrix, and Microsoft. Dedicated "Clouds" can also sit behind Lore's redundant switching, routing, and firewall platform.
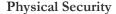
Lore Enterprise Cloud (IaaS Platform)

The Lore Enterprise Cloud is Lore System's fully redundant, robust, highly available, scalable enterprise cloud computing platform. The system features state-of-the-art technology from Cisco, Dell, and VMware.
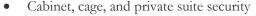
Cloud Computing Benefits

- 24/7 Availability, 99.999% uptime SLA and bandwidth
- Rapid provisioning of servers
- Scalability of requirements
- High security of data and equipment
- No up-front capital expenditures
- Cost-effective COOP/DR development (continuity of operations/disaster recovery)

Datacenter Specifications

Physical Security

- Cabinet, cage, and private suite security
- 24/7 video surveillance (over 900 cameras)
- 24/7 security guards
- Biometric hand-scan entry system
- Mantrap controlled entrance/exit
- Ticketing system for all deliveries
- Ticketing system for all visitors
- Datacenter is blast resistant

Bandwidth

- Over 160 carrier choices
- Minimal latency due to being "on net"
- Rapid provisioning
- Unlimited scalability and capacity

Environmental

- Redundant HVAC systems (N+1)
- Constant temperature and humidity
- Separate cooling zones
- Direct overhead cooling
- Humidity control

Fire Protection

- Early warning system
- Double pre-action dry pipe sprinkler system – pipes fill up but do not release until tip of sprinkler is superheated

Power

- Continuous, redundant uninterruptible power supply (N+1)
- Multiple redundant standby generators (N+1)
- Dual power feeds into the building
- Dual power feeds into each cage
- Dual power feeds into each cabinet

Monitoring

- 24 x 7 x 365 monitoring from state-of-the-art control room
- Server access and monitoring via Web interface

Datacenter Features

Reporting and Monitoring via MRTG

Lore Systems employs the Multi Router Traffic Grapher (MRTG) system for server, network and traffic utilization and performance tuning. This tool monitors the traffic load on network links and generates HTML pages containing PNG images which provide a live visual representation of traffic. MRTG consists of a Perl script which uses SNMP to read the traffic counters of your routers and a fast C program which logs the traffic data and creates graphs

representing the traffic on the monitored network connection. These graphs are embedded into webpages which can be viewed from any modern Web-browser.

MRTG maintains a log of all the data from the router, which is automatically consolidated. MRTG can monitor traffic as well as any SNMP variable.

Telecommunications

Our carrier-neutral facilities allow you access to competitive internet and local-loop pricing from over 160 different telecommunication providers. This allows you to control telecommunication costs while building redundancy into your system. Bandwidth can be provisioned within hours, as opposed to weeks.

Data Backup & Disaster Recovery

Backup and recovery are essential elements of our datacenter service. Lore employs a powerful suite of technologies and methods to deliver automated and robust backup capabilities. Our backup support is designed to protect your data, architecture and applications, while reducing the overall cost of your core network operations. Our solution incorporates all relevant backup issues, including the types and relative importance of data, pertinent regulatory rules, backup volume and time requirements along with other variables.

Scheduling Flexibility

Lore Systems performs all backups using our own high-performance, geographically dispersed, private network. We can schedule full, incremental or differential backup procedures as often as the customer requires. If the need arises, we can quickly increase the frequency and scope of data backup and storage activities.

Testing

Our engineers test and confirm that all backups have been performed correctly and that data integrity exists. Backups which experience any problem are immediately re-run and re-tested.

Data Restoration

In the unlikely event that information is lost or if historical data needs to be retrieved, our technicians will assist with restoration and reconfiguration. This can include comprehensive disaster recovery, restoration and the transportation of backup media.

Media Storage Alternatives

Lore Systems offers a number of data storage alternatives, including on-site and off-site storage with reliable security and fast access.

Datacenter Power

Power – Backup Generators

Backup generators are comprehensively tested. Various scripted tests are conducted weekly, monthly (full load condition testing), quarterly, and annually, with all major components of the generator systems. The fuel system is designed to support the generators under full load for a period of 48 hours. For additional N+1 redundancy, our generator capacity also includes up to two additional generators, one fixed and one mobile.

Power Conditioning at the Datacenter

UPS, battery and diesel generators back up every datacenter power system. Power enters two different locations in the facility from the local electric utility and is configured at 480 volt, 3-phase. The incoming power is fed into two busses, A and B, providing diverse power distribution to the cabinet areas.

Backup power and power quality monitoring are provided through the UPS system, both for AC and DC power systems. DC power is produced onsite via the use of DC rectifiers. The AC power system is backed up under full load for up to 15 minutes. In the event of a power interruption, the backup batteries are a momentary source of electricity until the backup generators are brought online. Once the generator logic control system senses a power interruption, the generators are brought online within 7-9 seconds. Caterpillar diesel generator units power the backup electrical power system. Finally, dual AC and DC raceways with N+1 distribution are designed for a minimum 1.75kw per cabinet average draw. AC power delivery is via parallel redundant UPS systems.

Sub-Station Feeds

Datacenter facilities receive multiple feeds from power utilities and distribute the power based on N+1 redundancy within each center. The fully redundant N+1 design is modular in nature, meaning that additional power system modules (battery strings, UPS modules, generators, etc.) can be added into the existing system should it become necessary to do so in order to maintain full redundancy.

Power Strips

Lore Systems has the ability to deliver virtually any power configuration at an individual rack level, including low-density and high-density requirements. Conditioned AC power with two independent A & B power buses respectively is available to customers. When a customer utilizes an A and B feed, Lore can deliver 100% SLA on power availability. We will work with customers to understand the exact requirements for the remotely managed power strips and come up with a mutually beneficial solution to meet this requirement.

UPS

Both AC and DC power are backed up by batteries that initiate automatically for up to (15) minutes of full-load operation using dual-redundant module Liebert UPS systems. Upon loss of utility power for more than two (2) seconds, emergency backup generators acquire the load for the duration of the utility outage.

LORE NAICS CODES

Codes	Descriptions
517911	Telecommunications Resellers
517919	All Other Telecommunications
518210	Data Processing, Hosting, and Related Services
519120	Libraries and Archives
519130	Internet Publishing and Broadcasting and Web Search Portals
519190	All Other Information Services
541511	Custom Computer Programming Services
541512	Computer Systems Design Services
541513	Computer Facilities Management Services
541519	Other Computer Related Services
541611	Administrative and General Management Consulting Services
541613	Marketing Consulting Services
541618	Other Management Consulting Services
541690	Other Scientific and Technical Consulting Services
541990	All Other Professional, Scientific, and Technical Services
551114	Corporate, Subsidiary, and Regional Managing Offices
561421	Telephone Answering Services
561422	Telemarketing Bureaus and Other Contact Centers

CONTRACTS & CERTIFICATIONS

	Maryland CATS II Master Contractor
	Certified MBE (minority business enterprise) by NMSDC (National Minority Supplier Development Council)

Lore Systems Contacts

S. Tien Wong
Chief Executive Officer
(703) 932-9191
twong@lore.net

Dwight Fischer
Executive Vice President
(703) 408-3334
dfischer@lore.net

Andrew Zaleski
Vice President & Director of Information Technology
(703) 402-0525
azaleski@lore.net

Lore Systems, Inc.
(866) 251-0167 toll free
(703) 542-2200 phone
(703) 542-1288 fax

sales@lore.net
www.lore.net