

AcuMANAGER/STREAM

Rich Media Core Engine Scalable Architecture

AcuMANAGER rich media core engine

AcuMANAGER is the heart of Aculearn's Content Delivery Network (CDN) architecture. It works with AcuSTUDIO to speed up delivery of multimedia contents over a network infrastructure, AcuLIVE to deliver broadcast to mass audience and AcuCONFERENCE for real time collaboration using its built-in Multipoint Conferencing Unit (MCU). It serves as chat server and web forum. It manages documents such as PPT, DOC, XLS, JPG, GIF, BMP, PDF and SWF. Extending the CDN functionality using AcuSTREAMs, a large number of participants can be supported at the same time without overloading the WAN bandwidth.



Scalable Architecture

Aculearn rich media communication solution suite is used and proven by Telcos, Corporations and major universities connecting thousands of people together.

True "all in one" rich media solution

On one single scalable architecture, Aculearn delivers all your rich media communication needs with the provision of live web broadcasts, real time interactive conference/ work collaboration and creation and distribution of on demand learning content.

Working within your secure network

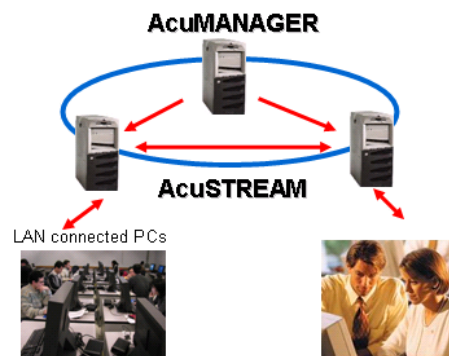
Aculearn solution is used in places with high network security demands. Our solutions work with proxy server, domain authentication and most types of Microsoft ISA security settings. In fact, the system can be linked with Microsoft Active Directory system to protect user access.

Overcome bandwidth limitations

The issues of limited network bandwidth to support multimedia applications like video on demand, live-webcast video, video conference or web collaboration can be avoided by deploying CDN to deliver contents at the network edge instead of central server. CDN is an effective way to scale up the network without requiring major upgrades to network infrastructure and bandwidth. The combination of AcuMANAGER and AcuSTREAM forms the CDN infrastructure. AcuMANAGER is the core of the CDN. Any number of AcuSTREAMs can be deployed at the network edge to localize traffic to serves users in their vicinities.

Optimal Performance Redirection

Conference participants are automatically redirected to the AcuSTREAM with the best network response. The respective AcuSTREAMs will interconnect to reduce international bandwidth utilization.



Saving bandwidth through OPR

Central Management Console

Using Internet Explorer browser, the administrator can connect to the AcuMANAGER to manage and configure the entire CDN, including the AcuSTREAMs.

Firewall Friendly

When AcuMANAGER receive content from AcuSTUDIO, it replicates content to the edge AcuSTREAM servers using firewall friendly HTTP pull protocols. Addition or deletion of contents are done via the AcuMANAGER. The AcuMANAGER synchronizes the changes across all the AcuSTREAMs.



Broadcast Server

AcuMANAGER and AcuSTREAM acts as broadcast relay nodes. Live video streams are delivered as single streams between AcuMANAGER and AcuSTREAM. AcuSTREAM is responsible to relay these live streams to the viewers using Multicast or Unicast.

Security

AcuMANAGER works with your network security. Access to the system or its content can be controlled by authenticating with Microsoft Active Directory to achieve Single Sign On or by setting Access Code.

Controlled content replication

Replication time can be configured to only allow content replication to occur during off-peak hours, e.g. from midnight, to avoid disrupting critical applications during business hours.

Forums

AcuMANAGER set up discussion forums for video on demand content. When it receive a posting, it will email alert the author of the content about the posting and provide hyperlink to access the forum.

Virtual Content Delivery Network

For large network deployment you can create virtual groups to serve different subsidiaries. You can also create different class of services using VCDN as well. Users can assigned to these virtual network groups.

Enterprise and ASP system

We understand the difference in the workflow between the enterprise and ASP environment. AcuMANAGER contain 2 different access interfaces to server both environments.



Flexible web interface design to work with enterprise and ASP workflow

Call Detail Records

Every access for video on demand content, live webcast and conference are logged into CDR. This is useful for inter-departmental and customer billing.

Notification

When a session is created for AcuSTUDIO, AcuLIVE or AcuCONFERENCE. AcuMANAGER will send an email to the author together with the access hyperlink and instructions/system requirements to access the session. Author simply need to forward this email to his participants.

Specifications

Technical Requirements

- Microsoft Windows 2000 Server, 2003 Server
- Pentium 4, 1Ghz, 2 GB RAM and above
- 1 hour of 100kbps on demand content will need about 50MB storage

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|-------------------------------------|---------------------------------|--------------------------------|
| Maximum concurrent users per server | Studio - Server Bandwidth limit | |
| | Live - 300 | Unlimited on Multicast Network |
| | Conference - 300 | |
| Ports Requirements | 7350,7351,7352,7353 | UDP Ports - Shortest Latency |
| | 443 | TCP or |
| | 80 | TCP |
| Proxy | Supported | |
| Domain authentication | Supported | |
| Security | Microsoft Active Directory | Requires Admin login |
| | AcuMANAGER security | Access Password |

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