CEM SYSTEMS
From Tyco Security Products

AC2000 Failover

Features that make a difference:

- Failover/High Availability

- Negligible System Down-time – no effect on company productivity

- Zero Data Loss

- Upon system failure there is minimal affect on users – they simply logoff and login into their AC2000 workstation software again

- Manual and Automatic failover modes available

- AC2000 Security Hub alarm notifications

The CEM AC2000 Failover server provides the highest level of system resilience. Irrespective of expenditure on the highest specification RAID server for a clients AC2000 Server, there is still the realisation that after a long period of constant processing 24 hours per day, 7 days a week, that the main server hardware may eventually fail.

Why use AC2000 Failover?

If users have a hardware maintenance contract in place, it is likely that the server will be repaired or replaced. However, until the AC2000 Server is restored, there is always a period of time where all ID Badging stops, where it is impossible to update/stop existing cards and where the AC2000 Security Hub is offline.

Even if the most recent backup can be used, a certain amount of data is always lost when restoring a primary server; namely all changes that have been made since the last successful backup finished and the machine crashed. This will include cards that have been issued or updated, new or updated images, transaction/alarm information and all other database changes.

Using AC2000 Failover, clients are provided with a failsafe secondary server and the highest assurance of system reliability should the central AC2000 server hardware fail.

How Failover works...

Failover is achieved by using two machines running AC2000 (or AC2000 Airport). The first machine is defined as Primary and the second machine is defined as Secondary (standby). The software is installed on both servers and comes with a step-by-step installation guide. When this Failover system is used, no CEM intervention is required, and there is no painstaking reading of backup tapes and minimal data loss. The system users and administrators are given clear notification that there is a problem with one of the servers.

Failover Connections

Between the two servers is a replication network. This network is independent of the main network and is the network through which all mirrored data is transferred from the primary server to the secondary server. Should the Primary server fail, and the failover process is initiated, the Secondary server will:
- Adopt the IP address of the Primary AC2000 CDC server
- Launch the CDC software
- Service the RTCs, Door Controllers, Ethernet readers and AC2000 system workstations

User Notification

In the event of the primary server failing, the Security Hub displays 'CDC offline' and AC2000 applications stop working. If the failover setup is in Manual mode, the system administrator needs to manually failover the system so the Secondary Server takes control. If the system is in Automatic mode, the servers detect heartbeat failure and failover to the Secondary Server occurs automatically. Security Hub automatically reconnects to the Secondary Server and a 'failover alarm' is generated. Readers, Door Controllers, and RTC's automatically connect to the Secondary server. Once the faulty server has been repaired, it can be restored to the role of Primary server.

What is Needed?
- Two Servers (Primary and Secondary)
  - AC2000 CDC specification
  (i.e. Raid 5, Dual network cards
  (NICs) and a Backup device).
- Network information. CEM Failover requires 5 Network addresses:
  - Main network: 3 IP addresses (The Primary and Secondary main network and cluster IP must always be on the same logical network)
  - Replication network: 2 IP addresses

Failover Components Explained

CDC Primary Server
The Server on which the CEM application software (AC2000) and users will normally be running on/connected to.

CDC Secondary Server
The server that maintains a mirrored, concurrent copy of the CEM AC2000 application software. This system is ready to take over operation if the Primary System fails.

Replication Network
The replication network is the network between the Primary and Secondary server through which all data is transferred.

Pacemaker
Pacemaker is a service that runs on the Replication Network and constantly checks that each server is running at all times.

Failback
Failback is the process of restoring a system, component, or service in a state of failover back to its original state.

Requirements
- Security Hub and Video Viewer available from AC2000 v7.1 Service Pack 1 upwards
- AC2000 v6.3 software & upwards
- AC2000 Airport v6.3 software & upwards

Ordering Information

Product Code	Description
SWFAIL	AC2000 Failover Server Software licence
SYS/102/00F	CDC Failover Server (including AC2000 Failover Software – SWFAIL)
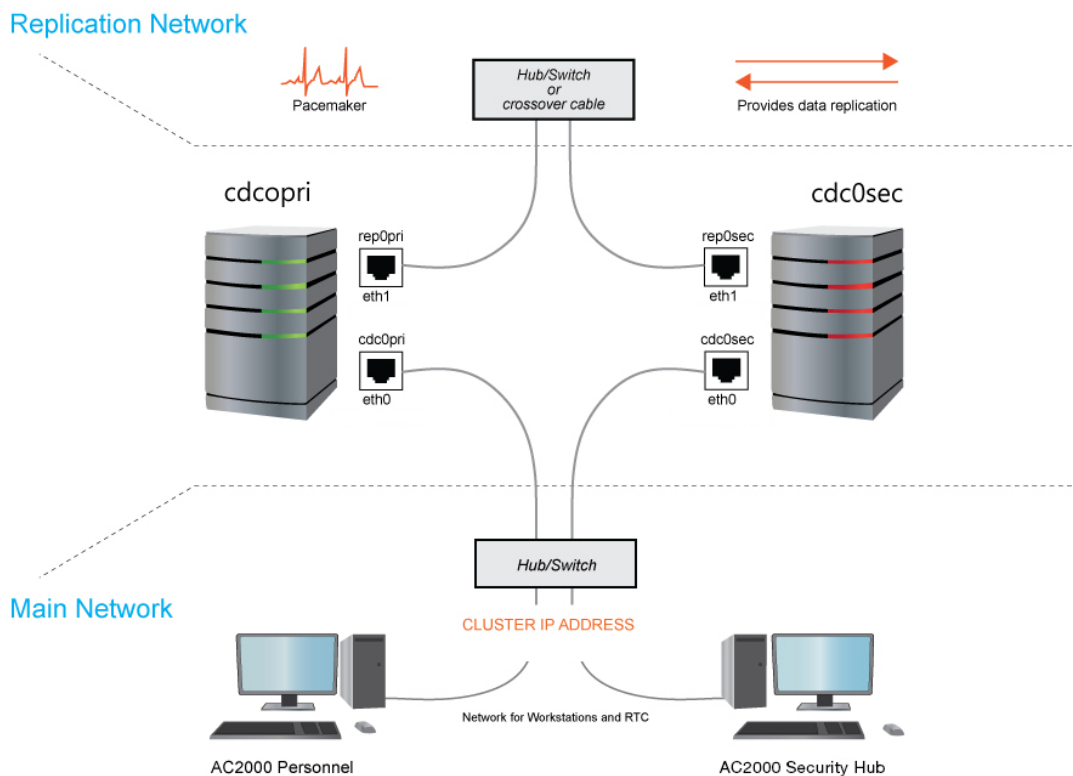
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