As security surveillance networks rapidly develop and applications become diversified, demands for network infrastructure reliability is increasing, especially in continuous network transmission applications. By providing the Milestone System with an automatic failover mechanism for the Management Server, the Recording Server and the SQL Server greater resilience, reliability, and the elimination of a single point of failure is achieved.

6SS Centaur® is a standalone application that has been developed, by 6SS, to provide an automatic failover mechanism for the Milestone Management Server, the Recording server, and the SQL Server without using the Windows Clustering feature which requires advanced IT competency, a domain environment and shared storage. 6SS Centaur® is fully integrated with the Milestone System Event Server and alarm manager in order to alert the operators in the event a physical server fails, in addition a secondary alarm will be activated once the server is restored. 6SS Centaur® also provides a failover mechanism for 6SS Products.

Data Flow

1. 6SS Centaur® will forward the virtual IP to the primary XProtect combined server when it is up and running. In the event that the primary server fails, 6SS Centaur® will ensure that the secondary server takes over. 6SS Centaur® forwards the data to the relevant server and provides real-time data replication and synchronization.
2. 6SS Centaur® reads the ID from the XML file of the primary recording server.
3. 6SS Centaur® changes the ID of the failover recording server.
4. The primary recording server and the failover recording server will be configured in 6SS Centaur® using their own IP addresses. Both recording servers will be up and storing recordings. When one fails, the other server will continue to work as normal. When the server returns to normal, the other server will send the missing recordings.
5. An alarm notification will appear on the XProtect Smart Client when the primary server fails and another alarm notification will appear once the primary server returns in to service.
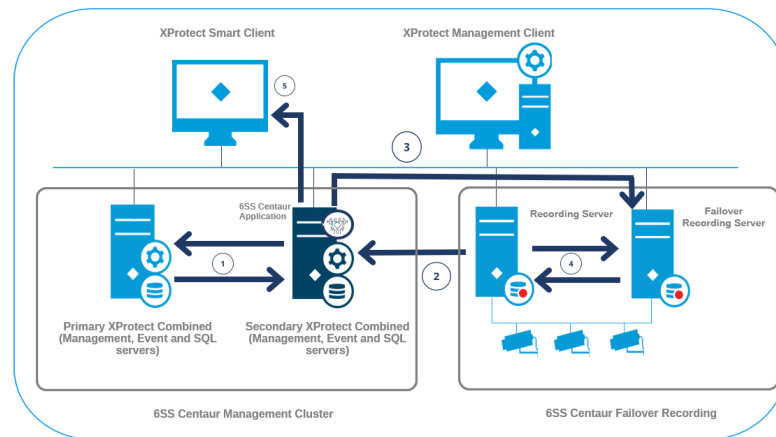

Figure 1 System Architecture

Functionality

6SS Centaur® is an application that groups two Milestone Management Servers, two SQL Servers or two Recording Servers into a virtual entity while also performing a failover for 6SS Products. It allows logical devices to function separately from physical devices. The primary server and the secondary server will each have their own physical IP address and they combine to form a virtual server with its own separate virtual IP address. All the Management Server entities including the Event Server and the Alarm Manager in addition to the SQL Server will be configured to use the Virtual IP Address in all system communications. The 6SS Centaur® application will ensure to forward the data to the primary server. Real-time data replication and synchronization will ensure that the secondary server will take over in case the primary server fails with no downtime or system interruption. An alarm will be triggered in the Smart Client, in the case of a failed server, a secondary alarm will be activated once the server is restored.

6SS Centaur® does not require a dedicated server as the application can be installed on the secondary server and thus reduces IT infrastructure costs.

Main Benefits

- Cost effective
- Simplified configuration
- Maximized system uptime
- Increased network visibility
- Increased reliability
- Reduced configuration time
- Reduced IT Manpower and competency
- Reduced IT resources including dedicated storage
- Customer-tailored features in case needed

6SS Centaur®

Key Features

- Management Server Failover.
- Event Server Failover.
- Data collector Failover.
- Log Server Failover.
- Microsoft SQL Server Failover.
- Recording Server Failover.
- 6SS Products Failover.
- Support Microsoft SQL Express, Standard and Enterprise editions.
- Failover Status monitoring (UP or Standby Mode).
- Real-time data synchronization between primary and secondary servers.
- Automatic switching between primary and secondary servers with no data loss.
- Automatic service startup option.
- Fast Recovery Time.
- Support Milestone XProtect Corporate, XProtect Expert, XProtect Professional plus and XProtect Express+.
- Does not require dedicated storage or a server.
- Fast configuration and deployment.
- Alarm notification in the case that the primary server fails and a secondary alarm when the server is restored.
- User defined events to control the video resolution and frames per second.

System Components

- Windows OS 8.1 or above. (Identical operating systems on both machines).
- Windows Server 2016 or above. (Identical operating systems on both machines).
- Microsoft .NET framework 4.7.2 or newer (for .NET components usage).
- Microsoft DirectX 9.0 or later.
- Microsoft SQL Server Express, Standard or Enterprise edition (Same product and version on both machine).
- Milestone XProtect Corporate, XProtect Expert, Professional+, Express+, or Essential+ (Same product and version on both machine).
- 6SS Centaur® application is installed on the Secondary XProtect Combined Server.

Disadvantages of Server Clustering

- Requires experienced network administrators.
- Proprietary technology.
- Hard to set up.
- Hard to maintain.
- Hard to troubleshoot.
- Takes a long time to configure.
- High probability of configuration errors.
- Expensive.
- Does not integrate with Milestone.
- Requires dedicated storage.

Minimum System Specifications

- System Compatibility with Architecture Figure 1.
- Central Processing Unit (CPU):
    - 6SS Centaur require 2 free CPU Core.
    - x64 (64-bit).
- Graphical Processing Unit (GPU):
    - Not required to run 6SS Centaur product.
- Random Access Memory (RAM):
    - At least 8 GB of RAM.

Business value

As security surveillance networks rapidly develop and applications become diversified, demands for network infrastructure reliability are increasing, especially in nonstop network transmission applications. By allowing Milestone System to have automatic failover feature on the Management ,Event, SQL, Log, Data collector and Recording Server and 6SS products levels without the need to use proprietary clustering mechanisms and without the need of dedicated storage and advanced IT personnel skills, 6SS Centaur® will contribute in increased security by maximizing system uptime and eliminating single point of failure in addition to decreasing the deployment cost and the most important thing is that it only takes less than a minute to be configured.

milestone VERIFIED