Your protection against
Network Fraud
Disastrous Results
Costly Outages

GHEM Secure Access Control Manager

GHEM Secure Access connects and provides strict access and real-time monitoring to disparate network elements across the enterprise. GHEM manages secure connections to network elements over IP, X.25 and serial connections. User-friendly, efficient web access is available to administrators, technicians and users, which makes remote control of network elements simple and secure.

GHEM Secure Access Control

"Zero trust", means restricting commands that a group and or individual user can execute so they have just enough authority to accomplish their job, but are protected from causing costly outages or disastrous outcomes due to lack of experience. GHEM has the ability to classify ports on a network element and marshal priority access to automated tasks or super users. Connectivity to ports are static (or “nailed-up”), which eliminates the possibility of users or individuals with hostile intentions from bypassing GHEM. All sessions are recorded and persisted should forensic investigation be required.

- **Session Logging and Audit Trails**
  Each user session is logged for recall and playback. An audit trail for each network element, each port of each network element, users, etc. can be recalled for analysis and assessment of security risks, training needs and more.
- **Command Limiting**
  Commands to network elements are limited by GHEM based on the particular user and particular network element type.
- **Optimized Access**
  Users can utilize a wait function that queues them for the next available port.
- **Session Management and Timeouts**
  Disconnects users from idle sessions based on configurations determined by system administrators.
- **Scalable**
  The system is scalable and can be distributed across multiple servers for capacity management and failover protection.
- **Web Access**
  As systems become more complex and more and more network element types arrive to the telecommunications arena, user efficiency decreases. A browser based user interface allows users to manage various types of network elements without the need to access multiple systems.
- **Port Classification**
  Ports can be classified for user group access, port functionality, or access priorities
- **Alias Management**
  The system provides for multiple aliases of network elements. Unique and customized nomenclature and identifiers for network elements can be simplified for rapid user recall.
- **SSO**
  SSO is supported. Users signed into GHEM do not need to know passwords at the network element level.

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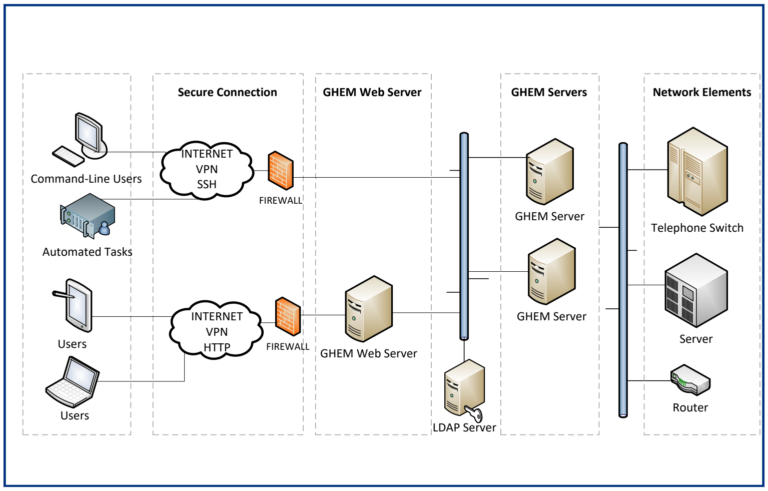
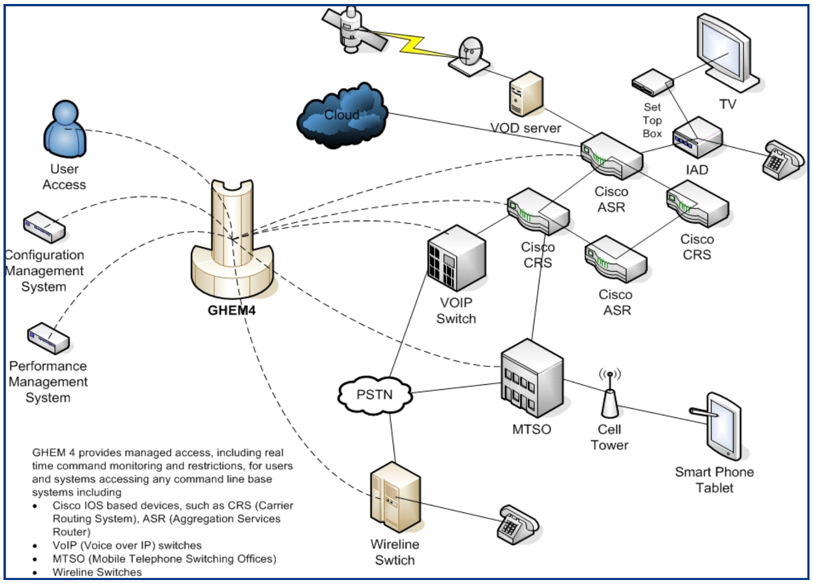
GHEM Secure Access Control manages user access to host systems such as servers, routers, telephone switches, and more. It supports communications over IP, X.25, or direct serial connections. Management functions include:

- Restrict User Access by Individual or Group
- Limit User Commands by individual or Group
- Optimized Access (GHEM allows users to log them in as soon as the port becomes available)
- Automatic Port Timeouts to Clear Inactive Sessions
- Single Sign On (SSO) for all Network Elements
- Designate Priority Access to Ports using Port Classification

System Server Implementation



Telecommunications Model Implementation



GHEM 4 provides managed access, including real time command monitoring and restrictions, for users and systems accessing any command line base systems including

- Cisco IOS based devices, such as CRS (Carrier Routing System), ASR (Aggregation Services Router)
- VoIP (Voice over IP) switches
- MTSO (Mobile Telephone Switching Offices)
- Wireline Switches

- Monitor and Control Any User's Session in Real-Time
- Disconnect User in Real-Time
- Real-Time View of Every Port
- Logs connections and all user commands to a host
- Creates Session Files that allow administrators to replay a user's entire session
- Supports the following methods of connectivity for network devices: telnet, SSH, Modem Ports, and X.25

Scalability and Failover

To successfully secure a large telecommunications network, the solution had to scale and be fault tolerant. The simplicity of GHEM Secure Access Control makes it easy to scale by adding additional hardware. For small to medium-sized customers, adding memory and disk space handles most scalability issues. Larger customers would add additional servers.

Proven Technology

GHEM Secure Access Control is currently operating in small, medium, and large telecommunication companies across the globe.