

What is EMSER?

Since 2004

The emser service released in late 2004 on all major console/terminal servers. This service/daemon runs on all major linux based console servers, all versions of Linux, major UNIX, Solaris, HPUX, AIX and Windows. The software provides command line access via serial ports or provides a command window directly on the host device, i.e., console server, desktop, notebook or server. The emser deployment allows multiple servers running MO management applications to gain access to emser enabled hosts and hosts connected to emser enabled console servers. The emser may run via redirected 8689 IP port access allowing access using the Intel Active Management Technology to gain access to a system that is not connected to the network or in single user or diagnostic mode.

MO and emser team to provide single software solution that spans major systems and console servers. This teaming means companies are now able to provide their user community with a consistent, uniform, extremely efficient, highly secure, one time login, and time saving access. The user authenticates via the MO applications and may gain direct access to any emser enabled serial port via line card or consoles server as well as any server, desktop, or notebook without having to login. Intel's AMT enabled servers, notebooks and desktops allow access as well.

EMSER enabled Console Servers

Emser's release on major console servers greatly improves all terminal server access performance, presents a standard uniform access interface across all console servers, allows data and operations centers to purchase the most effective solution and protects investment in existing access infrastructure.

The emser enabled console servers benefit and in many ways including:

- a more efficient use of network, memory and CPU by maintaining a single connection to MO service, climd, that also results in greatly improved performance
- faster access over a single connection pipe and thus not subject multiple sshd connections; one connection over which 4, 8, 16,32 or 48 ports are multiplexed rather than 4,8,16,32,48 or more SSHD connections. the connections to devices attached to the console server is as fast as one connection coming up rather than waiting for single connections to each port to come up; when recovering from network outages re-establishing access quickly is extremely important.
- Centralized configuration is quickly deployed that automatically configures the console server upon the console server's power on; this makes provisioning a new or replacement console server very quickly in a straight forward and simple manner that saves time.
- A single aggregated metric of console activity across all console server ports that allows administrators to monitor system performance by high and low water mark settings of console activity. Unusual activity in lower or much higher activity may also indicate a security threat.
- the state of the device attached to a console server's serial port may be determined by the EMSER monitored UART Signal Status; the server that is disconnect from the console server and/or powered off is quickly identified.
- Less memory is required on emser enabled console servers as emser takes less memory than the SSHD daemon(s)
- Emser once deployed updates automatically. The code has been stable for 2 years.
- Emser has local access to each serial port via emstty application; means administrators may access the port from the console server while logged in or via the MO application that access the port remotely; both connections may be maintained simultaneously.

MO applications and Services Team with EMSER

The MO command line access service, `climd`, logs all data; the MO log file manager and viewer scans and views all data that passes between EMSER connected sessions and the `climd` service. The `climd` service connection between the emser enabled console server and MO server is 1024 bit encrypted; the message exchange is proprietary and therefore highly secure.

The MO console manager quickly configures the console server with two inputs: the console server name and IP address. The emser deployed to multiple console servers from multiple vendors means the user has a single tool with a single, uniform management interface to any vendors' linux based console servers. The UART signal monitor and other tools described above provide the means to quickly debug or deploy replacement console server connections.

The MO target manager configures the console server port and maps target name to a serial port. Multiple MO servers and the MO access applications may each connect to emser on the console server. The emser on the console server maintains the connection to the serial port. The MO `climd` service maintains the availability status of a console server attached device/target.

Multiple failures may be tolerated when MO service daemons and emser team. Redundant MO servers and applications may be in place making access highly available in cases of multiple failures; the MO and emser team and greatly reduce the complexity of redundant systems and failover.

The MO log file Services and applications allow scanning of log files using Extended Regular Expression to find important patterns as well as the ability to quickly view important portions of the console log created and maintained by the `climd` service. The MO log file applications make it easy to email or print relevant portions of the console log quickly and easily. These console log files may be replicated to secure servers in a real time fashion; this ensures finding tampering and allowing other security programs access to the log files without impacting the MO server.