Trusted Thin Client®
Distribution Console Spanning

Trusted Thin Client® from Raytheon is an accredited Commercial-Off-The-Shelf (COTS) solution that provides secure simultaneous access to applications and information on one or more networks and Virtual Desktop Infrastructure (VDI) environments through a single connection point. Trusted Thin Client maintains secure data separation while allowing users appropriate access to virtual desktops on one or more networks. These networks can be allocated to the same or different classification/sensitivity level (for example, Top Secret/SCI, Secret, Restricted, and Sensitive But Unclassified). Trusted Thin Client is identified on the United States Unified Cross Domain Services Management Office (UCDSMO) Baseline list as an approved cross domain access solution for both Top Secret and Below Interoperability (TSABI) and Secret and Below Interoperability (SABI) deployments.

The Trusted Thin Client solution consists of client software and Distribution Consoles. The client software can be used on thin clients, repurposed PCs, laptops, encrypted removable media or mobile devices. The Distribution Consoles run on server hardware. Residing in the data center, the Distribution Console is the Trusted Thin Client enterprise administration and security hub, maintaining secure connections to each virtualized back end network or cloud (private, public, community). This architecture allows clients to securely access desktops, applications, and data from the back end environment at various security or sensitivity levels. Many enterprise Trusted Thin Client deployments require access to a wide range of classified or sensitive networks including those that may be hosted in different geographic regions and are controlled by separate departments, organizations, agencies, or coalition partners. In these cases, extending the infrastructure for those networks to every location is cost prohibitive and potentially politically sensitive.

Utilizing Distribution Console Spanning in these enterprises enables a secure, seamless, and high-performance architecture through which users – no matter their agency affiliation or location – can gain access to all allowed resources from a single end point across the wide area network (WAN). Distribution Console Spanning also supports low bandwidth networks, such as tactical and satellite communications.

Wide Area Network Access Throughout the Cloud
Large enterprises with multiple sites require that users have seamless access to a number of networks and clouds regardless of the physical location.

Installing a Distribution Console at each network’s physical point of presence, and connecting them through the client network creates a Cluster. This architecture gives users the ability to seamlessly connect to remote networks and VDI sessions regardless of location.

In some cases, organizations might require access to Distribution Consoles that are located outside of their designated clusters. For example, Agency A and Agency B, both Trusted Thin Client users, have complementary missions that require them to share information residing on a classified network owned and managed by Agency B. By configuring the Alternate Cluster Connection Utility (ACCU) on the Distribution Consoles, Agency A can quickly gain access to Agency B’s network without incurring the additional expense and overhead for a new network installation. With ACCU in place, authorized users at each Agency have access to all the information they need to fulfill mission requirements.
Expanding Failover and Load Balancing
A standard Trusted Thin Client deployment supports failover between local Distribution Consoles. When Distribution Console Spanning is configured, remote failover capabilities are utilized. The failover feature also supports configurable priority levels to provide predictable and controllable failover situations (e.g., failing over to a Distribution Console on another LAN segment before utilizing one for failover accessible via satellite network connectivity).

Multi-Enterprise Spanning
In addition to expanding the reach to resources within an agency or organization, Distribution Console Spanning can also expand the ability to share information between cooperating agencies or organizations that also utilize the Trusted Thin Client solution. Multi-Enterprise Spanning allows each agency or organization’s Trusted Thin Client cluster administrators to selectively publish service resources of common interest to other clusters without exposing backend resources or architecture. Multi-Enterprise Spanning allows disparate mission groups and agencies to work together quickly and securely from any location.

Distribution Console Spanning In Use
A large Intelligence Community (IC) customer utilizes Distribution Console Spanning to provide their users with access to locally available networks (LANs) and remote or distant networks (WANs). The classified networks to which this IC customer requires access are not all accessible through local Distribution Consoles. Additional networks reside outside the local network operations center or are not within close proximity for direct connection to a Distribution Console.

With Distribution Console Spanning established in their environment, users located at the home office can access remote networks that are not available in their local data center. These users connect directly to the Distribution Consoles located in remote offices outside of the country, which in turn connect directly to the required networks. This gives users transparent access to networks worldwide by selecting a menu item from their client desktop.

A key benefit realized by this IC customer is that the network did not require infrastructure modifications. All of the communications to the remote networks are tunneled through the high side network backbone over a 256-bit AES, IPSec encrypted tunnel, and access is driven by user profiles and organizational policy.

Distribution Console Spanning also provides this IC customer with access to a larger number of network connections, 50 or more, by sharing access to back end connected networks between properly configured Distribution Consoles.

Conclusion
Trusted Thin Client enables secure connection to one or more networks (regardless of classification) and back end virtualized environments from a physical or virtual client and a single network connection. The Trusted Thin Client server component, the Distribution Console, is a security boundary device that maintains secure network separation enabling users to securely access desktops, applications, and data at each permitted network security level. Distribution Console Spanning enables users access across the wide area network to other Distribution Consoles in the cloud, providing immediate seamless access to remote desktops, applications, and data that were previously unreachable. Distribution Console access controls prescribe which network connections can be accessible by each individual user or device. Distribution Console Spanning is used to expand the number of network connections provided by a single Distribution Console, while maintaining the benefits of load distribution, local/regional failover capabilities, and system-wide enterprise management from a single location.

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