Web Desktop

Web desktop

A web desktop or WebTop is a desktop environment embedded in a web browser or similar client application. A WebTop integrates web applications, web services, client-server applications, application servers, and applications on the local client into a desktop environment using the desktop metaphor. Web desktops provide an environment similar to that of Windows, Mac, or a graphical user interface on UNIX and Linux systems. It is a virtual desktop running in a web browser. In a WebTop the applications, data, files, configuration, settings, and access privileges reside remotely over the network. Much of the computing takes place remotely. The browser is primarily used for display and input purposes.

The terms "web desktop" and "WebTop" are distinct from web operating system, a network operating system such as TinyOS or distributed operating system such as Inferno. In popular use, web desktops are sometimes referred to incorrectly as web operating systems or simply WebOS.

History

In the context of a web desktop, the term Webtop was first introduced by the Santa Cruz Operation (SCO) in 1994 for a web-based interface to their UNIX operating system. Andy Bovingdon and Ronald Joe Record, who both explored the concepts in different directions, are often credited as the inventors. The initial SCO Webtop, developed by Record, utilized a Netscape Navigator plugin to display applications in a browser window via TightVNC.
Bovingdon's three tiered architecture (TTA) concept was launched as the Tarantella Webtop. This technology originated from early commercial use of web server technology by SCO. The first OS vendor to include a commercial web server, NCSA HTTPd, and commercial web browser, NCSA Mosaic. Their X.desktop product line, obtained when they acquired IXI Limited in the UK, was the first to have icons for URLs and an HTML-based help system. Tarantella allowed real UNIX and Windows applications to be displayed within a web browser through the use of Java to form a true web based desktop or Webtop.

The first SCO Webtop releases were part of SCO Skunkware before being integrated into SCO OpenServer version 5 and UnixWare 7. Tarantella was subsequently purchased by Sun Microsystems and integrated into their Sun Secure Global Desktop.

Byte magazine referred to the Webtop as a NUI (Network User Interface).

Webtop versus Desktop

Advantages

Convenience: A personalized desktop on every supported client device
Mobility: Access your desktop anywhere there is a supported client device
Session Management: Server-side session management allows roaming users to access restored sessions from anywhere

Software Management:

- Ensures all users are running the same current versions of all applications
- Updates and patches need only be applied to the server - no need to update multiple clients
- No need for software to distribute software over the network

Security:

- Less prone to typical attacks, viruses, worms, unpatched clients, vulnerabilities
- Sensitive data stored on secure servers rather than scattered across multiple potentially unprotected and vulnerable clients (e.g. smart phones and laptops)
- Encrypted transmission of all data between server and clients (e.g. https)

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- Software Management features (above) accommodate quick and easy application of security advisories on server side
- Webtop administrator can control which applications and data each user is allowed to access

High Availability:

- From a single device access Windows, UNIX, Linux, and Mainframe applications, all at the same time.
- Minimal hardware requirements for client devices.
- Less downtime - robust server system more easily protected and less likely to fail than multiple client desktops.
- Fault tolerance - if a client device fails for any reason simply replace it with any other supported client device without loss of data, configuration, preferences, or application access.

Drawbacks

Security: Due to the fact that all data is transferred over the internet, it might be possible for a hacker to intercept the connection and read data. Although with the use of https 256-bit encryption and access control lists, this can be easily safe-guarded.

Speed: When using a web desktop the whole code used for visualization (.js/.css files, Flash player files, etc.) needs to be transferred to the local computer, so that it can be displayed. Further, network latency or congestion can intermittently slow webtop activity.
Application Features: Some webtop delivered applications may not contain the full feature set of their traditional desktop counterparts

Network Access: Web desktops require access to a network. If the client device is misconfigured or the network is unreachable then the web desktop is unavailable.
Controlled Access:In some webtop implementations and deployments a user's access to some applications and data can be restricted. This is also considered an advantage of webtops but can be viewed as a drawback from the user's perspective.
Central Control: The normal webtop user is not able to install additional applications or update existing applications. Updates typically must be performed by an administrator on the server side. Webtop users are dependent upon the webtop administrator whereas in the traditional desktop environment the user can fix and/or break the system by installing new software or updates. This can also be seen as an advantage for webtops.

Comparison of web desktops

The following tables compare general and technical information for a number of web desktops. Please see the individual products' articles for further information and external links. This article is not all-inclusive or necessarily up-to-date.

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