

Sun Ray Connector for Windows OS 2.2
Installation Guide
1.0

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Sun Ray Connector for Windows OS 2.2 사용자 설명서

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사용(모든 항목)

Windows 세션 시작 방법

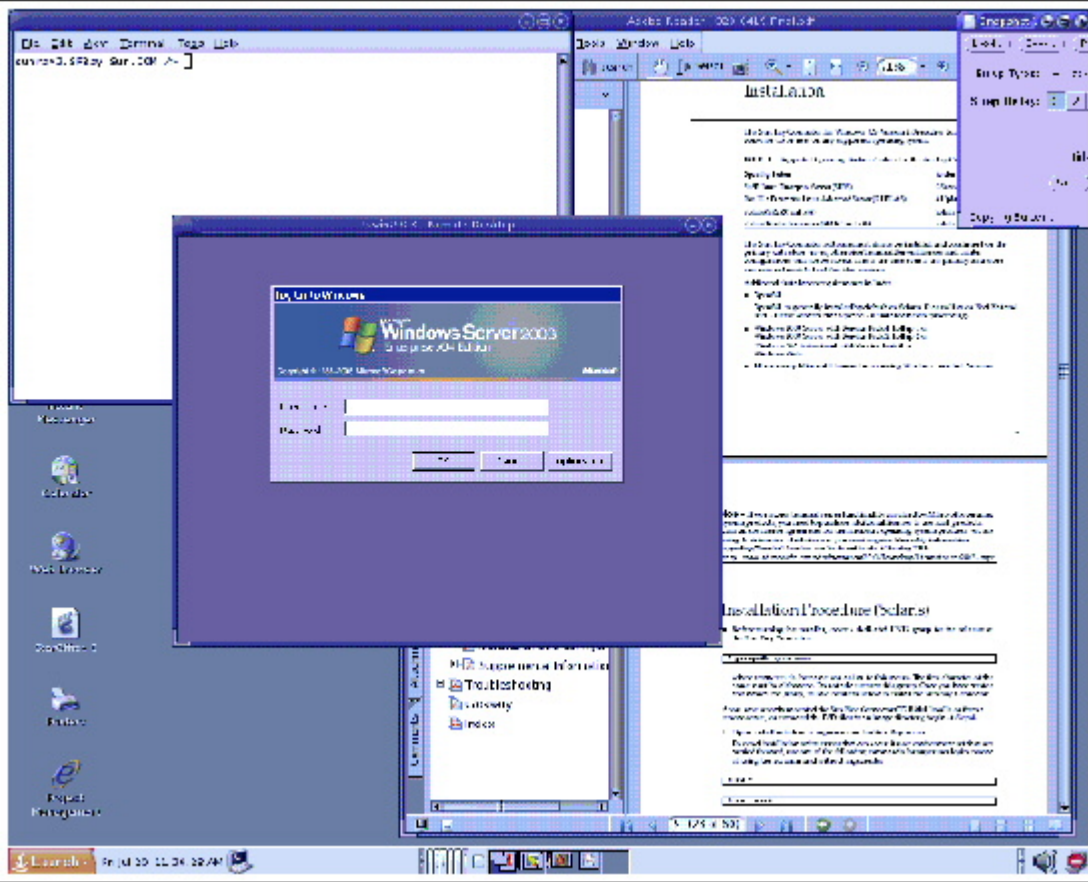
Sun Ray Windows Connector 소프트웨어를 설치한 후에는 Windows 시스템의 DTU에서 Windows 세션을 시작할 수 있습니다.

1. DTU에 로그인합니다.
2. Windows 시스템에서 Windows 세션을 시작합니다.

```
% /opt/SUNWuttsc/bin/uttsc <options> <hostname.domain>
```

Windows 시스템이 Sun Ray 데스크탑과 같은 도메인에 있으면 도메인 이름을 지정하지 않아도 됩니다. 하지만 원하는 경우 `<hostname.domain>` 대신 전체 IP 주소를 지정할 수 있습니다.

Windows 시스템의 이름 및 주소를 제외하고 다른 옵션 없이 `uttsc` 명령을 실행하면 다음 그림에 표시된 대로 Sun Ray DTU에 Windows 세션이 표시됩니다.



기본 화면 크기는 640 x 480 픽셀입니다.

세션을 전체 화면 모드로 표시하거나 다른 방법으로 수정하려면 `uttsc(1)` 매뉴얼 페이지를 참조하십시오.

`uttsc` 명령을 사용하여 여러 모니터에 세션을 표시하려면 Sun Ray DTU에서 `XINERAMA`를 활성화해야 합니다.

JDS(Java Desktop System) 내에서 Windows 세션을 시작하는 방법

Solaris 운영 체제용 Sun JDS(Java Desktop System) 통합 패키지는 `uttscwrap` 라는 CLI를 제공하여 Solaris 10의 JDS 데스크탑과 Sun Ray Windows Connector의 통합을 개선합니다. JDS 통합 패키지는 Sun Ray Windows Connector 소프트웨어 이미지의 Supplemental 폴더에 포함되어 있습니다.

다양한 Windows 시스템에서 Windows 세션 또는 Windows 응용 프로그램을 시작하도록 데스크탑 또는 메뉴 실행 프로그램이 정의된 경우 `uttscwrap` 를 사용합니다.

`uttscwrap` 는 사용자가 암호 기반 인증(username/domain/password)을 위해 자격 증명을 입력할 수 있는 로그인 대화 상자를 제공합니다. 대화 상자를 통해 자격 증명을 저장해두고 나중에 호출할 수 있습니다. 다음 번 실행 시 대화 상자에 해당 자격 증명 이 표시됩니다.

주
`uttscwrap` 는 암호 기반 인증의 자격 증명 캐싱에만 적용되도록 설계되었습니다. 스마트 카드 인증에는 사용할 수 없습니다. 스마트 카드 인증에는 Sun Ray Windows Connector를 직접 사용합니다 (/opt/SUNWuttsc/bin/uttsc).

자격 증명은 각 Windows 서버 및 응용 프로그램 조합에 대해 별도로 저장됩니다. 이 규약을 사용하면 다음과 같이 여러 자격 증명을 저장할 수 있습니다.

- 동일한 서버에 있는 다양한 응용 프로그램 대상
- 각기 다른 서버에 있는 다양한 프로그램 대상
- 시작된 응용 프로그램이 없는 다양한 서버 세션 대상

서버 또는 응용 프로그램에 대해 새 자격 증명 이 저장되면 이전에 저장된 자격 증명을 대체합니다.

단계

uttscwrap 를 통해 Sun Ray Windows Connector를 시작하려면, uttscwrap 명령줄에 uttsc 명령줄에서 사용하는 동일한 매개 변수를 지정합니다.

1. DTU에 로그인합니다.
2. Windows 시스템에서 Windows 세션을 시작합니다.

```
% /opt/SUNWuttscwrap/bin/uttscwrap <options> <hostname.domain>
```

Windows 시스템이 Sun Ray 데스크탑과 같은 도메인에 있으면 도메인 이름을 지정하지 않아도 됩니다. 하지만 원하는 경우 <hostname.domain> 대신 전체 IP 주소를 지정할 수 있습니다.

Windows 세션을 잠그는 방법

이 절차는 사용자 세션을 지정된 Sun Ray DTU 밖으로 이동할 때 Windows 세션을 잠그는 방법에 대해 설명합니다.



주

이 기능은 특정 공개 Sun Ray 인터페이스를 의도된 사용 이외의 다른 용도로 사용하는 경우뿐만 아니라 기본적으로 사용 불가능한 기술 및 비공개 Sun Ray 인터페이스에 따라 다르게 구현됩니다. 이러한 이유로 이 기능은 지원되는 기능으로 제공되지 않습니다.

세션 잠금을 구현하는 데 사용되는 일반적인 방법은 xvkbd(utaction 에 의해 호출됨)를 사용하여 lockscreen 키입력을 Windows 세션으로 보내는 것입니다.

다음과 같이 Xsession.d 또는 xinitrc.d 스크립트에서 utaction 을 호출할 수 있습니다.

```
#!/bin/sh
XVKBD=/usr/openwin/bin/xvkdb
/opt/SUNWut/bin/utaction -d "$XVKBD -text '\M1'" &
```

xvkbd 는 기본적으로 사용 가능하지 않으므로 xvkbd 의 설치 위치를 올바르게 식별할 수 있도록 이 예에서 XVKBD 설정을 수정합니다.



주

키입력 시퀀스 \M1 는 Windows 2003/XP 세션에 대해 Windows 잠금을 활성화합니다. 기타 Windows 버전에서는 다른 키입력 시퀀스로 대체해야 할 수 있습니다.

uttsc 매뉴얼 페이지에 대한 액세스 설정 방법

man 명령에 사용자가 직접 액세스할 수 있도록 하려면 MANPATH 변수에 다음 항목을 추가합니다.

```
/opt/SUNWuttsc/man
```

JDS(Java Desktop System) 통합 패키지(Solaris 전용)를 설치한 경우에도 다음 항목을 추가해야 합니다.

```
/opt/SUNWuttscwrap/man
```

추가한 후 다음 명령을 입력하면 매뉴얼 페이지가 표시됩니다.

```
% man uttsc
```

SRWC 명령에 대한 액세스 설정 방법

SRWC 명령에 사용자가 직접 액세스할 수 있도록 하려면 PATH 변수에 다음 항목을 추가합니다.

```
/opt/SUNWuttsc/bin, /opt/SUNWuttsc/sbin, /opt/SUNWuttscwrap/bin
```

/opt/SUNWuttscrap/bin 경로는 사용자가 JDS 통합 패키지를 사용 중일 때만 필요합니다.

데스크탑 바로 가기를 설정하여 Windows 세션을 시작하는 방법

현재 Sun Ray Windows Connector에 대한 그래픽 사용자 인터페이스를 사용할 수 없습니다. 그러나 실행 프로그램을 설정하여 사용자에게 데스크탑 아이콘이나 메뉴 항목을 제공함으로써 Windows 세션에 연결할 수 있습니다.

실행 프로그램 설정에 대한 자세한 내용은 운영 체제의 데스크탑 설명서를 참조하십시오.

로컬 드라이브 매핑

모든 파일은 Sun Ray 환경에서 Windows 환경으로 마운트하고 매핑할 수 있습니다. 플래시 드라이브와 같이 Sun Ray 서버 USB 포트에 연결되는 이동식 매체 장치의 파일 시스템은 `utstorged` 명령을 사용하여 Windows 환경에 매핑할 수 있으며, 이때 파일 시스템은 로컬로 마운트된 드라이브로 나타납니다.



주

Windows 파일 이름에는 `:*? "<>|` 문자를 포함할 수 없습니다. 리디렉션된 UNIX 폴더에 이러한 문자를 사용하는 파일 이름이 포함되지 않도록 하십시오.

사용자가 Windows 세션에서 Sun Ray DTU에 연결된 USB 장치에 액세스하도록 하려면 [About USB Device Redirection](#)을 참조하십시오.

Unable to render {include} Couldn't find a page to include called: Troubleshooting Windows Session Connection

Glossary

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

If you would like to add a term to the list, use the Add Comment link at the bottom of the page.

A

Term	Description
AAC	Advanced Audio Coding, a "lossy" compression format capable of delivering relatively high quality at relatively low bit rates.
alias token	An alias token that enables a card owner to access the same Sun Ray session with more than one physical token. This token can be useful when a user needs a duplicate smart card.
ALP	The Sun Appliance Link Protocol, a suite of network protocols that enable communication between Sun Ray servers and DTUs.
AMGH	Automatic Multigroup Hotdesking. See regional hotdesking.
AH	Authentication headers used as part of an IPSec implementation.
authentication policy	The Authentication Manager uses the selected authentication module to determine what tokens are valid and which users, as token owners, have access to the system and sessions.
authentication token	Although all tokens are used by the Authentication Manager to grant or deny access to Sun Ray sessions, this term usually refers to a user's smart card token. See token.

B

Term	Description
backplane bandwidth	Sometimes also referred to as "switch fabric." A switch's backplane is the pipe through which data flows from an input port to an output port. Backplane bandwidth usually refers to the aggregate bandwidth available among all ports within a switch.
barrier mechanism	To prevent clients from downloading firmware that is older than the firmware that is already installed, the administrator can set a barrier mechanism. The barrier mechanism symbol BarrierLevel is defined by default in the DHCP table of Sun Ray servers running version 2.0 or later of Sun Ray Server Software.
bpp	Bits per pixel.

C

Term	Description
CABAC	Context-adaptive binary arithmetic coding, a "lossless" entropy coding technique used in H.264/MPEG-4 AVC video encoding.
CAM	Controlled Access Mode, also known as kiosk mode. As of SRSS 4.0, the CAM module was replaced by a rewritten Kiosk module.
card reader	See token reader.
category 5	The most common type of wiring used in LANs. It is approved for both voice and data at up to 100 Mhz. Also called "cat 5."
client-server	A common way to describe network services and the user processes (programs) of those services.
codec	A device or program capable of encoding or decoding a digital data stream or signal.
cold restart	Pressing the Cold Restart button terminates all sessions on a given server before restarting Sun Ray services. See restart.
cut-through switch	The switch begins forwarding the incoming frame onto the outbound port as soon as it reads the MAC address while continuing to receive the remainder of the frame.

D

Term	Description
DHCP	Dynamic Host Configuration Protocol, a means of distributing IP addresses and initial parameters to the DTUs.
domain	A set of one or more system boards that acts as a separate system capable of booting the OS and running independently of any other board.
DTU	Desktop Terminal Units, the original name of Sun Ray desktop units. These units are also referred to as Sun Ray thin clients, Sun Ray ultra-thin clients, and Sun Ray virtual display terminals.

E

Term	Description
ESP	Encapsulating Security Payloads, used as part of IPSec.
Ethernet	Physical and link-level communications mechanism defined by the IEEE 802.3 family of standards.
Ethernet address	The unique hardware address assigned to a computer system or interface board when it is manufactured. See MAC address.
Ethernet switch	A unit that redirects packets from input ports to output ports. It can be a component of the Sun Ray interconnect fabric.

F

Term	Description
failover	The process of transferring processes from a failed server to a functional server.
failover group	Two or more Sun Ray servers configured to provide continuity of service in the event of a network or system failure. Sometimes abbreviated as FOG or HA (for high availability). The term high availability refers to the benefit of this type of configuration; the term failover group refers to the functionality.
filling station	Any private network configured for Sun Ray services or any shared network in which the Sun Ray DHCP server is the only DHCP server. When a DTU's firmware is downgraded to an earlier version because it connects to a server running the earlier version, it needs to be connected to a filling station so that it can download newer firmware.
firmware barrier	See barrier mechanism.
FOG	See failover group.
fps	Frames per second.
frame buffer	Video output device that drives the video display. See virtual frame buffer.

G

Term	Description
GEM	Gigabit Ethernet.
group-wide	Across a failover group.

H

Term	Description
H.264	A standard for video compression developed by MPEG and VCEG for a wide range of bit rates and resolutions. Also known as MPEG-4 AVC (Advanced Video Coding) and MPEG-4 Part 10.
HA	High availability. Sun Ray HA groups have traditionally been called failover groups.
head	Colloquial term for a screen, or display, or monitor, especially in a context where more than one is used in conjunction with the same keyboard and mouse, as in "multihead" feature.
high availability	See failover. The term high availability refers to a benefit of this type of configuration. The term failover group refers to the functionality.
hotdesking	The ability for a user to remove a smart card, insert it into any other DTU within a server group, and have the user's session available for instantaneous access to the user's windowing environment and current applications from multiple DTUs.
hot key	A predefined keyboard shortcut used to trigger certain activities either on the DTU or within the Sun Ray session running on the Sun Ray server. A hot key is used to bring up the Settings screen on the Sun Ray DTU.
hot-pluggable	A property of a hardware component that can be inserted into or removed from a system that is powered on. USB devices connected to Sun Ray DTUs are hot-pluggable.

I

Term	Description
idle session	A session that is running on a Sun Ray server but to which no user (identified by a smart card token or a pseudo-token) is logged in.
IKE	Internet Key Exchange, a component of IPsec.

interconnect fabric	All the cabling and switches that connect a Sun Ray server's network interface cards to the Sun Ray DTUs.
intranet	A private network that uses internet protocols and is confined to an organization.
IP address	A unique number that identifies each host or other hardware system on a network. An IP address is composed of four integers separated by periods. Each decimal integer must be in the range 0-255 (for example, 129.144.0.0).
IP address lease	The assignment of an IP address to a computer system for a specified length of time, rather than permanently. IP address leasing is managed by the Dynamic Host Configuration Protocol (DHCP). The IP addresses of Sun Ray DTUs are leased.
IPSec	The Internet Protocol (Security) set of protocols seeks to secure IP communications by encoding data packets through authentication headers (AH) and encapsulating security payloads (ESP) and by providing a key exchange mechanism (IKE).

K

Term	Description
kiosk mode	A facility to run sessions under an anonymous user account without a UNIX login. Kiosk sessions provide a preconfigured, usually restricted, software environment. The term kiosk mode was used interchangeably with CAM in earlier versions of SRSS. As of SRSS 4.0, this module was completely rewritten and is now officially called kiosk mode.

L

Term	Description
LAN	Local Area Network. A group of computer systems in close proximity that can communicate with one another through connecting hardware and software.
layer 2	The data link layer. The OSI (Open Standards Interconnection) model contains seven layers. Layer 2 is concerned with procedures and protocols for operating the communication lines between networks as well as clients and servers. Layer 2 also has the ability to detect and correct message errors.
local host	The CPU or computer on which a software application is running.
local server	From the DTU's perspective, the most immediate server in the LAN.

M

Term	Description
MAC address	Media Access Control. A MAC address is a 48-bit number programmed into each local area network interface card (NIC) at the time of manufacture. LAN packets contain destination and source MAC names and can be used by bridges to filter, process, and forward packets. 8:0:20:9e:51:cf is an example of a MAC address. See also Ethernet address
managed object	An object monitored by the Sun Management Center software.
mobile token	If mobile sessions are enabled, this pseudo-token enables a user to log in to an existing session from different locations without a smart card, in which case the user name is associated with the session. This type of pseudo-token is called a mobile token.
mobility	For the purposes of the Sun Ray Server Software, the property of a session that enables it to follow a user from one DTU to another within a server group. On the Sun Ray system, mobility requires the use of a smart card or other identifying mechanism.
modules	Authentication modules are used to implement various site-selectable authentication policies.
MPPC	Microsoft Point-to-Point Compression protocol.
MTU	Maximum Transmission Unit, used to specify the number of bytes in the largest packet a network can transmit.

multicasting	The process of enabling communication between Sun Ray servers over their Sun Ray network interfaces in a failover environment.
multihead	See head.
multiplexing	The process of transmitting multiple channels across one communications circuit.

N

Term	Description
NAT	See network address translation.
namespace	A set of names in which a specified ID must be unique.
network address	The IP address used to specify a network.
network address translation	Network address translation (NAT) typically involves the mapping of port numbers to allow multiple machines (Sun Ray DTUs, but not Sun Ray servers) to share a single IP address.
network interface	An access point to a computer system on a network. Each interface is associated with a physical device. However, a physical device can have multiple network interfaces.
network interface card	Abbreviated as NIC. The hardware that links a workstation or server to a network device.
network latency	The time delay associated with moving information through a network. Interactive applications such as voice, video displays, and multimedia applications are sensitive to these delays.
network mask	A number used by software to separate the local subnet address from the rest of a given Internet protocol address. An example of a network mask for a class C network is 255 . 255 . 255 . 0.
network protocol stack	A network suite of protocols, organized in a hierarchy of layers called a stack. TCP/IP is an example of a Sun Ray protocol stack.
NIC	Network interface card.
non-smart card mobility	A mobile session on a Sun Ray DTU that does not rely on a smart card. NSCM requires a policy that allows pseudo-tokens.
NSCM	See non-smart card mobility.

O

Term	Description
OSD	On-screen display. The Sun Ray DTU uses OSD icons to alert the user of potential start-up or connectivity problems.

P

Term	Description
PAM	Pluggable Authentication Module. A set of dynamically loadable objects that gives system administrators the flexibility of choosing among available user authentication services.
PAM session	A single PAM handle and runtime state associated with all PAM items, data, and the like.
patch	A collection of files and directories that replace or update existing files and directories that prevent proper execution of the software on a computer system. The patch software is derived from a specified package format and can be installed only if the package it fixes is already present.
PCM	Pulse Code Modulation.
policy	See authentication policy.

Pop-up GUI	A mechanism that enables configuration parameters for a Sun Ray DTU to be entered from the attached keyboard.
port	(1) A location for passing data in and out of a computer system. (2) The abstraction used by Internet transport protocols to distinguish among multiple simultaneous connections to a single destination host.
POST	Power-on self test.
power cycling	Using the power cord to restart a DTU.
pseudo-session	A Sun Ray session associated with a pseudo-token rather than a smart card token.
pseudo-token	A user accessing a Sun Ray session without a smart card is identified by the DTU's built-in type and MAC address, known as a pseudo-token. See token.

R

Term	Description
RDP	Microsoft Remote Desktop Protocol.
regional hotdesking	Originally known as Automatic Multigroup Hotdesking (AMGH), this SRSS feature enables users to access their sessions across wider domains and greater physical distances than was possible in earlier versions of SRSS. Administrators enable this feature by defining how user sessions are mapped to an expanded list of servers in multiple failover groups.
RDS	Remote Desktop Services. Formally known as Terminal Services. See Windows Terminal Services.
RHA	Remote Hotdesk Authentication, a security enhancement that requires SRSS authentication before users can reconnect to an existing session. RHA does not apply to Kiosk sessions, which are designed for anonymous access without authentication. RHA policy can be administered either through a GUI option or with the <code>utpolicy</code> command.
restart	Sun Ray services can be restarted either from the <code>utrestart</code> command or with the Warm Restart or Cold Restart options through the GUI. A cold restart terminates all Sun Ray sessions; a warm restart does not.

S

screen flipping	The ability on a Sun Ray DTU with a single head to pan to individual screens that were originally created by a multihead group.
server	A computer system that supplies computing services or resources to one or more clients.
service	For the purposes of the Sun Ray Server Software, any application that can directly connect to the Sun Ray DTU. It can include audio, video, Xservers, access to other machines, and device control of the DTU.
session	A group of services associated with an authentication token. A session may be associated with a token embedded on a smart card. See token.
session mobility	The ability for a session to "follow" a user's login ID or a token embedded on a smart card.
smart card	Generically, a plastic card containing a microprocessor capable of making calculations. Smart cards that can be used to initiate or connect to Sun Ray sessions contain identifiers such as the card type and ID. Smart card tokens may also be registered in the Sun Ray Data Store, either by the Sun Ray administrator or, if the administrator chooses, by the user.
smart card token	An authentication token contained on a smart card. See token.
SNMP	Simple Network Management Protocol
spanning tree	An intelligent algorithm that enables bridges to map a redundant topology and eliminates packet looping in Local Area Networks (LANs).
store-and-forward switches	The switch reads and stores the entire incoming frame in a buffer, checks it for errors, reads and looks up the MAC addresses, and then forwards the complete good frame out onto the outbound port.
subnet	A working scheme that divides a single logical network into smaller physical networks to simplify routing.
system	The Sun Ray system consists of Sun Ray DTUs, servers, server software and the physical networks that connect them.

T

TCP/IP	Transmission Control Protocol/Internet Protocol (TCP/IP) is a networking protocol that provides communication across interconnected networks between computers with diverse hardware architectures and operating systems.
thin client	Thin clients remotely access some resources of a computer server, such as compute power and large memory capacity. The Sun Ray DTUs rely on the server for all computing power and storage.
tick	The time interval since a specific network event. It is defined as 1/100th of a second, which is the usual SNMP convention.
timeout value	The maximum allowed time interval between communications from a DTU to the Authentication Manager.
token	The Sun Ray system requires each user to present a token, which the Authentication Manager uses to allow or deny access to the system and to sessions. A token consists of a type and an ID. If the user uses a smart card, the smart card's type and ID are used as the token. If the user is not using a smart card, the DTU's built-in type and ID (the unit's Ethernet, or MAC, address) are used instead as a pseudo-token. If mobile sessions are enabled, a user can log in to an existing session from different locations without a smart card, in which case the user name is associated with the session. A pseudo-token used for mobile sessions is called a mobile token. Alias tokens can also be created to enable users to access the same session with more than one physical token.
token reader	A Sun Ray DTU that is dedicated to reading smart cards and returning their identifiers, which can be associate with card owners (users).
trusted server	Servers in the same failover group that "trust" one another.

U

URI	Uniform Resource Identifier, the generic term for all types of names and addresses that refer to objects on the World Wide Web.
user session	A session that is running on a Sun Ray server and to which a user (identified by a smart card token or a pseudotoken) is logged in.

V

VC-1	Informal name of the SMPTE 421M video codec standard, now a supported standard for Blu-ray Discs and Windows Media Video 9.
virtual desktop	A virtual machine containing a desktop instance that is executed and managed within the virtual desktop infrastructure, usually a Windows XP or Vista desktop accessed through RDP.
virtual frame buffer	A region of memory on the Sun Ray server that contains the current state of a user's display.

W

Term	Description
warm restart	See restart.
WMA	Windows Media Audio data compression file format and codec developed by Microsoft.
work group	A collection of associated users who exist in near proximity to one another. A set of Sun Ray DTUs that are connected to a Sun Ray server provides computing services to a work group.
Windows system	Throughout the SRWC documentation, "Windows system" indicates a Windows OS that can be accessed from a Sun Ray DTU using SRWC. A Windows Terminal Server is one example of a Windows system.

Windows Terminal Server	A server running Windows Server software with Windows Terminal Services enabled.
Windows Terminal Service	A Microsoft Windows component that makes Windows applications and desktops accessible to remote users and clients. Depending on the Windows release, this feature may be called Terminal Services, Remote Desktop Services, or Remote Desktop Connection.

X

Term	Description
Xnewt	The new default Xserver for Sun Ray Server Software 4.1 and later on Solaris.
Xserver	A process which controls a bitmap display device in an X window system. It performs operations on request from client applications. Sun Ray Server Software contains two Xservers: Xsun, which was the default Xserver in previous versions of SRSS, and Xnewt, which is the default Xserver for SRSS 4.1 and later. Xnewt enables the latest multimedia capabilities.

Y

Term	Description
YUV	Simple, lossless mechanism to store images or a sequence of images.