

EdgeMarc 2900 Series

Hardware Installation Guide

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About This Guide

This guide provides an overview of the EdgeMarc™ 2900 series hardware components, instructions for installing the device, and how to set up the EdgeMarc in your network for the first time. It also includes compliance and certification notices and hardware and software warranty information.

For instructions on using the EdgeMarc VoIP Operation System (VOS) web-based GUI to configure, deploy, and manage the EdgeMarc, refer to the *EdgeMarc VOS User Guide* in the Edgewater Networks Knowledgebase: <http://edgewaternetworks.force.com/kb/>

Typographic Conventions

User input is displayed in **boldface** type and can represent keyboard input, mouse selections in a browser window, and buttons on the GUI, depending on the context. For example, the notation **File** > **Open...** means that you first click the **File** menu and then select **Open...** from the sub-menu in the GUI.

Command Line Interface (CLI) text is shown in `courier font`.



Note

Notes highlight information that is important or that has special interest.



Tip

Tips provide additional information that is helpful in performing a particular task but is not mandatory to perform the task.



Caution

Cautions alert you of actions or events that may cause system damage or loss of data.



Warning

Warnings alert you of actions or events that may cause bodily harm.

Document Organization

Item	Description
Chapter 3, <i>Product Overview - 2900a</i>	Describes EdgeMarc 2900 series hardware components.
Chapter 4, <i>Physical Installation</i>	Provides instructions for installing the EdgeMarc 2900 series hardware.
Chapter 5, <i>Configuring Basic Network Settings</i>	Describes how to power on the EdgeMarc and access the graphical user interface (GUI) to configure basic network settings for the first time.
Safety, Compliance, and Certifications	Describes EdgeMarc 2900 series specifications and certifications.
License and Warranty Information	License information related to the operation of EdgeMarc hardware and software.

Contact and Support Information

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Phone - 408.351.7200 ext. 2
support@edgewaternetworks.com

EdgeMarc 2900 Series

Introduction

The EdgeMarc 2900 series of Intelligent Edge devices enables enterprises and service providers to future-proof their SIP trunking and Unified Communications deployments, providing a highly flexible, scalable, and secure platform for service delivery and ongoing service quality management.

The 2900e offers dual Ethernet and Optical WAN connections to extend the capabilities of Edgewater's Network Edge Orchestration platform, supporting WAN connections up to 1 Gbps and 300 concurrent calls.

The EdgeMarc 2900a adds both outbound and inbound analog line (FXO/FXS) support for applications such as PSTN fail-over, fax, and overhead paging.

Product Overview - 2900e

EdgeMarc 2900e Front Panel

Figure 2-1 EdgeMarc 2900e Front Panel



When lit, the Power LED indicates power is applied to the system. The Status LED changes to indicate the current state of the system. (Figure 2-1).

Table 2-1 EdgeMarc 2900e LEDs

LED	Indicator	Description
Power	Off	Power is not supplied to the device. Troubleshoot by verifying that the power adapter is connected to the unit and that power is supplied to the AC wall outlet.
	Solid Green	Power is supplied to the unit.
Status	Off	Power is not supplied to the device, or the bootloader failed to load.
	Solid Amber	The device is running a self-test and is initializing.
	Flashing Amber	The device is upgrading its software.

Table 2-1 **EdgeMarc 2900e LEDs (continued)**

	Flashing Green	The device is loading the EdgeMarc VoIP Operation System (VOS).
	Solid Green	VOS is ready.
	Red	The device is in the bootloader. The kernel will change the LED to solid amber once the kernel starts loading.

EdgeMarc 2900e Back Panel

Figure 2-2 EdgeMarc 2900e Back Panel

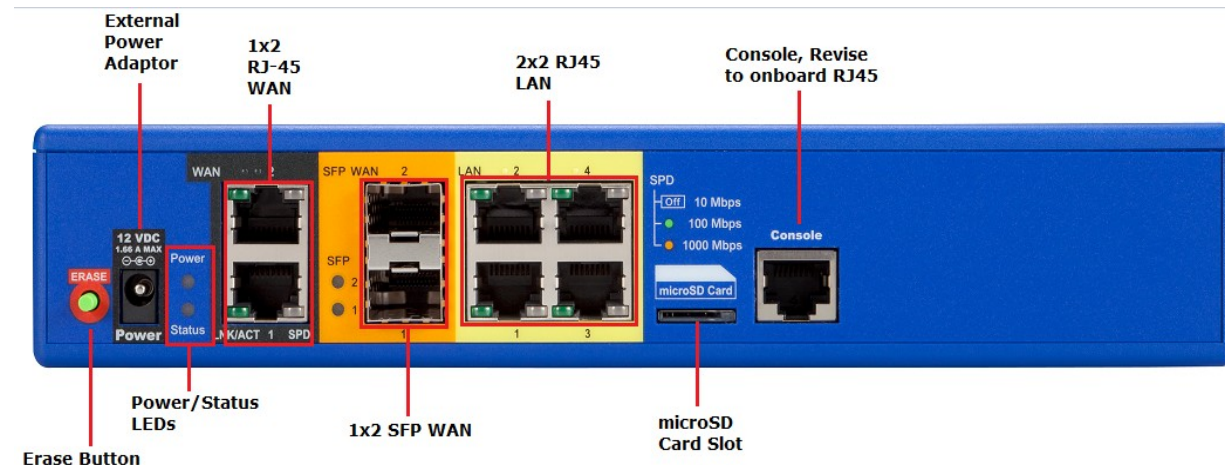


Table 2-2 EdgeMarc 2900e Back Panel Components

Physical Label/Type	Function	Description
12 vDC Power	External power adapter	12 VDC, 1.66A MAX.
Power/Status LEDs	System power and status	Refer to Table 2-1 for system and power status details.
Ethernet WAN Ports 1-2	WAN	2 x 10/100/1000 Mbps RJ-45 Ethernet ports for WAN network connectivity (copper).
SPF Link LEDs	Status	When lit, the SFP port is active and the copper RJ- 45 port is inactive.
Optical WAN SFP Ports 1-2	WAN	Small Form-Factor Pluggable (SFP) for fiber (RJ-45) Gigabit Ethernet connectivity. Either the SFP port (operating at 100/1000 Mbps) or the RJ-45 (operating at 10/100/1000 Mbps) port can be active at a time.
LAN Ports 1-4	LAN	4 x 10/100/1000 Mbps RJ-45 Ethernet ports for LAN network connectivity (copper). Default IP: 192.168.1.1

Table 2-2 EdgeMarc 2900e Back Panel Components (continued)

Erase	Erase button	<p>Press the Erase button in quick succession to control the following:</p> <ul style="list-style-type: none">■ One click—No action.■ Two clicks—Resets the CLI and GUI password with no service interruption.■ Three clicks—Restores to factory default settings and reboots the system. <p>Note: When restored to factory default settings, the current configuration is lost, disconnecting all VoIP devices, Internet connectivity, and network access for computers until the system is reconfigured.</p>
Management Console Port	Management	<p>RJ-45 serial craft port for console management.</p> <p>This port is used for debug or diagnostic purposes only. Primary system configuration is performed from a web browser as described the <i>EdgeMarc User Guide</i>.</p>
Micro SD Card Interface	Storage	<p>Allows the EdgeMarc to save configurations and other files to an SD High Capacity (SDHC) Version 2.0 card. Maximum storage capacity is 32 GB per SD card, 4 GB per file. The SD card capabilities are configured with the web-based configuration menu and with command-line interface (CLI).</p> <p>Refer to EdgeMarc 2900e SD Card Specifications.</p>

Ethernet Port LEDs

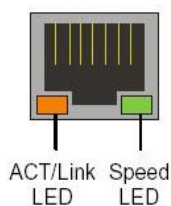


Table 2-3 Ethernet Port LEDs

Label	Indication	Status
Activity/Link		
Green	On—Solid Green	The device is powered and there is a good link between the Ethernet port and the connected switch.
	Off	There is no connection between the ends of the network cable. Check cable, replace cable.
	On—Flickering Green	The adapter is sending and receiving network data. The frequency of the flashing varies with the amount of data being transferred.
Speed		
Amber	On—Flickering Amber	A powered device is connected and the port speed is set to 1000 Mbps.
Green	On—Solid Green	A powered device is connected and the port speed is set to 100 Mbps.
	Off	The device is not powered, no cable connected, or the port speed is set to 10 Mbps.

EdgeMarc 2900e SD Card Specifications

Table 2-4 describes supported EdgeMarc 2900e SD card features.

For information about configuring SD card settings, see the *EdgeMarc VOS User Guide* in the Edgewater Networks Knowledgebase:

www.edgewaternetworks.com/kb



Disclaimer

Some older and slower speed SD cards do not support the entire MMC specification. These SD cards can dramatically reduce the performance of

SD card write speeds and the overall performance of the system. Recommended SD cards are class 10, UHS 1 or faster.

Table 2-4 SD Card Features

Feature	Description
File format	MS-DOS File Allocation Table FAT32
SD card classes	Class 10, and UHS-1 Recommended default is Class 10 or faster.
Capacity	Maximum storage capacity: 32 GB per SD card, 4 GB per file.
CLI	File Commands <ul style="list-style-type: none"> ■ delete = rm ■ copy = cp ■ rename = mv ■ edit = vi or cat
	Directory Commands <ul style="list-style-type: none"> ■ create = mkdir ■ delete = rmdir ■ rename = mv
	SD Card Commands <ul style="list-style-type: none"> ■ mount = sdcard mount ■ unmount = sdcard umount ■ format quick = sdcard format ■ name/rename SD card = sdcard volume <volume name> ■ status = sdcard check
EdgeMarc files	You can copy the following types of files to and from the SD card using the CLI: conf1, conf2, syslog, pcap, mand logs, sys_report output.
TFTP server	The TFTP file server is used for endpoint configuration file storage.
FTP server	The FTP file server is used for endpoint configuration file storage.
Remote access	SSH into the EdgeMarc 2900e via SCP for remote access to the SD card and files within the SD card.
System alerts for SD card insert/removal	A system alert is issued when an SD card is inserted or removed. The alert contains the timestamp of the event.

Product Overview - 2900a

EdgeMarc 2900a Front Panel

Figure 3-1 EdgeMarc 2900a Front Panel



When lit, the Power LED indicates power is applied to the system. The Status LED changes to indicate the current state of the system. (Figure 3-1).

Table 3-1 EdgeMarc 2900a LEDs

LED	Indicator	Description
Power	Off	Power is not supplied to the device. Troubleshoot by verifying that the power adapter is connected to the unit and that power is supplied to the AC wall outlet.
	Solid Green	Power is supplied to the unit.
Status	Off	Power is not supplied to the device, or the bootloader failed to load.
	Solid Amber	The device is running a self-test and is initializing.
	Flashing Amber	The device is upgrading its software.

Table 3-1 EdgeMarc 2900a LEDs(continued)

	Flashing Green	The device is loading the EdgeMarc VoIP Operation System (VOS).
	Solid Green	VOS is ready.
	Red	The device is in the bootloader. The kernel will change the LED to solid amber once the kernel starts loading.
Line	Solid green	PSTN line is in use.
	Off	PSTN line is not in use.
Phone	Solid green	Phone is in the off-hook state.
	Off	Phone is in the on-hook state.

EdgeMarc 2900a Back Panel

Figure 3-2 EdgeMarc 2900a Back Panel

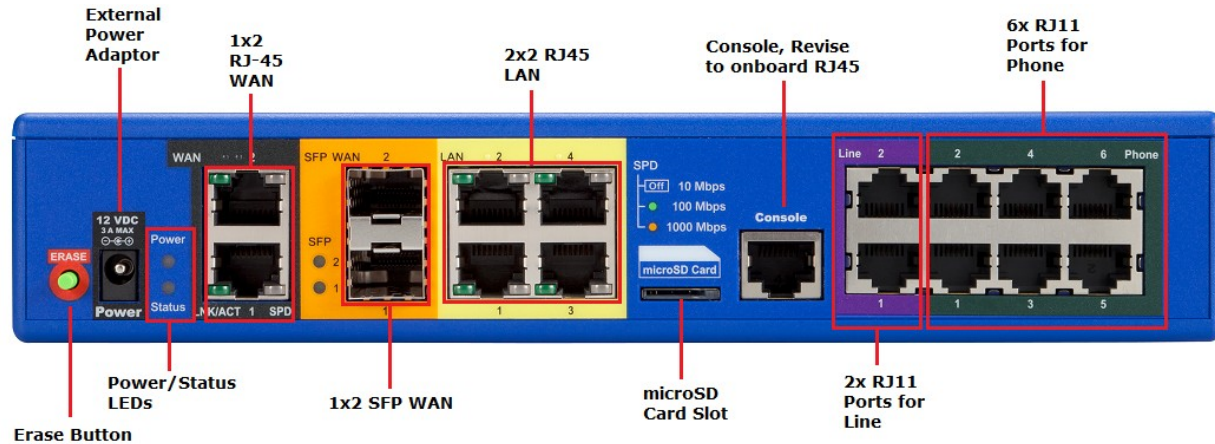


Table 3-2 EdgeMarc 2900a Back Panel Components

Physical Label/Type	Function	Description
12 vDC Power	External power adapter	12 VDC, 3A MAX.
Power/Status LEDs	System power and status	Refer to Table 3-1 for system and power status details.
Ethernet WAN Ports 1-2	WAN	2 x 10/100/1000 Mbps RJ-45 Ethernet ports for WAN network connectivity (copper).
SPF Link LEDs	Status	When lit, the SFP port is active and the copper RJ- 45 port is inactive.
Optical WAN SFP Ports 1-2	WAN	Small Form-Factor Pluggable (SFP) for fiber (RJ-45) Gigabit Ethernet connectivity. Either the SFP port (operating at 100/1000 Mbps) or the RJ-45 (operating at 10/100/1000 Mbps) port can be active at a time.
LAN Ports 1-4	LAN	4 x 10/100/1000 Mbps RJ-45 Ethernet ports for LAN network connectivity (copper). Default IP: 192.168.1.1
Line Ports 1-2	FXO	2 x RJ-11 ports for 2 FXO channels
Phone Ports 1-6	FXS	6 x RJ-11 ports for 6 FXS channels

Table 3-2 EdgeMarc 2900a Back Panel Components (continued)

Erase	Erase button	<p>Press the Erase button in quick succession to control the following:</p> <ul style="list-style-type: none">■ One click—No action.■ Two clicks—Resets the CLI password with no service interruption.■ Three clicks—Restores to factory default settings and reboots the system. <p>Note: When restored to factory default settings, the current configuration is lost, disconnecting all VoIP devices, Internet connectivity, and network access for computers until the system is reconfigured.</p>
Management Console Port	Management	<p>RJ-45 serial craft port for console management.</p> <p>This port is used for debug or diagnostic purposes only. Primary system configuration is performed from a web browser as described the <i>EdgeMarc User Guide</i>.</p>
MicroSD Card Interface	Storage	<p>Allows the EdgeMarc to save configurations and other files to a microSD High Capacity (microSDHC) Version 2.0. Maximum storage capacity is 32 GB per microSD card, 4 GB per file. The microSD card capabilities are configured with the web-based configuration menu and with command-line interface (CLI).</p> <p>Refer to “EdgeMarc 2900a MicroSD Card Specifications”.</p>

Ethernet Port LEDs

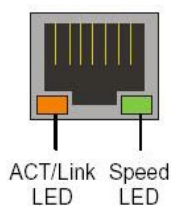


Table 3-3 Ethernet Port LEDs

Label	Indication	Status
Activity/Link		
Green	On—Solid Green	The device is powered and there is a good link between the Ethernet port and the connected switch.
	Off	There is no connection between the ends of the network cable. Check cable, replace cable.
	On—Flickering Green	The adapter is sending and receiving network data. The frequency of the flashing varies with the amount of data being transferred.
Speed		
Amber	On—Flickering Amber	A powered device is connected and the port speed is set to 1000 Mbps.
Green	On—Solid Green	A powered device is connected and the port speed is set to 100 Mbps.
	Off	The device is not powered, no cable connected, or the port speed is set to 10 Mbps.

EdgeMarc 2900a MicroSD Card Specifications

Table 3-4 describes supported EdgeMarc 2900a microSD card features.

For information about configuring microSD card settings, see the *EdgeMarc VOS User Guide* in the Edgewater Networks Knowledgebase:

www.edgewaternetworks.com/kb



Disclaimer

Some older and slower speed SD cards do not support the entire MMC specification. These SD cards can dramatically reduce the performance of SD card write speeds and the overall performance of the system. Recommended SD cards are class 10, UHS 1 or faster.

Table 3-4 MicroSD Card Features

Feature	Description
File format	MS-DOS File Allocation Table FAT32
MicroSD card classes	Class 10, and UHS-1 Recommended default is Class 10 or faster.
Capacity	Maximum storage capacity: 32 GB per microSD card, 4 GB per file.
CLI	File Commands <ul style="list-style-type: none"> ■ delete = rm ■ copy = cp ■ rename = mv ■ edit = vi or cat
	Directory Commands <ul style="list-style-type: none"> ■ create = mkdir ■ delete = rmdir ■ rename = mv
	MicroSD Card Commands <ul style="list-style-type: none"> ■ mount = sdcard mount ■ unmount = sdcard umount ■ format quick = sdcard format ■ name/rename microSD card = sdcard volume <i><volume name></i> ■ status = sdcard check
EdgeMarc files	You can copy the following types of files to and from the microSD card using the CLI: conf1, conf2, syslog, pcap, mand logs, sys_report output.
TFTP server	The TFTP file server is used for endpoint configuration file storage.

Table 3-4 MicroSD Card Features (continued)

Feature	Description
FTP server	The FTP file server is used for endpoint configuration file storage.
Remote access	SSH into the EdgeMarc 2900a via SCP for remote access to the microSD card and files within the microSD card.
System alerts for microSD card insert/removal	A system alert is issued when a microSD card is inserted or removed. The alert contains the timestamp of the event.

Physical Installation

The following sections describe how to install the EdgeMarc 2900 series hardware:

- [Overview](#)
- [EdgeMarc 2900 series Appliance Shipping Contents](#)
- [Required Tools and Materials](#)
- [Installing the EdgeMarc 2900 series on a Desktop, Shelf, or Tray](#)
- [Installing the EdgeMarc 2900 series on a Wall](#)
- [Installing the EdgeMarc 2900 series in a Rack](#)
- [Mount the device with the front panel placed horizontally facing up or down on the wall.](#)
- [Connecting the Power and Cables](#)

Overview

The EdgeMarc 2900 series appliance is designed for desktop, wall, shelf, tray, or rack installation. Observe the following guidelines when installing the system:

- Always verify that the AC power cord is disconnected from a power source prior to installation.
- Do not stack multiple units on top of each other as this can cause overheating.
- Ensure that the installation site has adequate air circulation and meets the minimum operating conditions for the system as specified in [Safety, Compliance, and Certifications](#).

EdgeMarc 2900 series Appliance Shipping Contents

Table 4-1 describes the EdgeMarc 2900 series Shipping Box Contents.

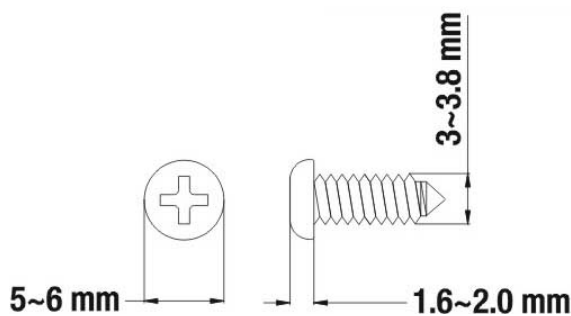
Table 4-1 EdgeMarc 2900 series Shipping Box Contents

SN	Description
1	EdgeMarc 2900 series appliance (Figure 3-1)
2	DC-12V 3A, Wall Mount Power Adapter, 36W
3	Safety Instructions

Required Tools and Materials

You will need the following tools and materials to install the EdgeMarc:

- (1) Flat or Phillips Screwdriver—For wall or shelf mounting.
- (2) Flat or round-head Phillips or slotted screws—1 ½ inch long for wall mounting, as shown below.



- (2) Hollow wall anchors—For wall mounting.
- Ethernet cables—To connect the LAN ports to LAN switches or to individual VoIP devices.

Power Surge Protection

EdgeMarc units are designed with a robust internal surge protection system.

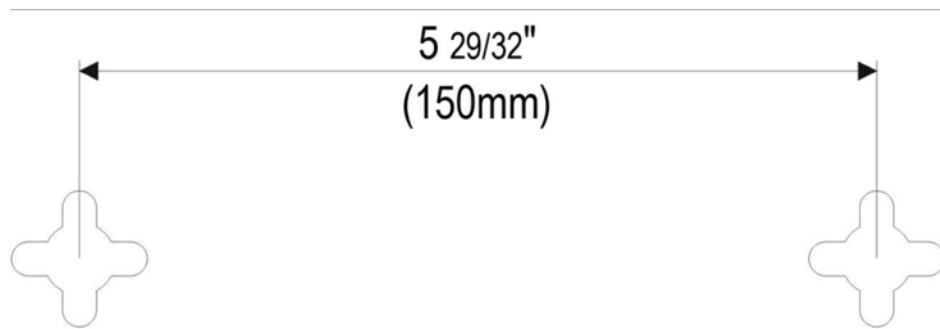
Installing the EdgeMarc 2900 series on a Desktop, Shelf, or Tray

1. Remove the EdgeMarc device and accessories from the shipping container.
2. Place the device on a flat, dry surface such as a desktop, shelf, or tray.

Installing the EdgeMarc 2900 series on a Wall

Mount the EdgeMarc on a wall using the two mounting brackets on the bottom of the appliance. We recommend that you use two round or pan head screws.

1. Install two screws 5.9063" (150 mm) horizontally apart on a wall or other vertical surface. The screws should protrude from the wall so that you can fit the appliance between the head of the screw and the wall, as shown below.



Note

If you install the screws in drywall, use hollow wall anchors to ensure that the unit does not pull away from the wall due to prolonged strain from the cable and power connectors.

2. Remove the EdgeMarc device and accessories from the shipping container.
3. Mount the device with the front panel placed horizontally facing up or down on the wall.

Installing the EdgeMarc 2900 series in a Rack

1. Attach the rack mount ears to both sides of the EdgeMarc chassis with the supplied screws.
2. Install the chassis in the rack with rack mount screws.
3. You may have to remove the rubber feet (attached to the bottom of the unit) if you are stacking multiple devices on the rack.

Connecting the Power and Cables

The EdgeMarc 2900 series comes with an AC power adapter for connecting to an AC outlet.



Warning

Always connect the AC power cord to an AC outlet suitable for the power supply that came with the unit to reduce the risk of damage.

**Caution**

Secure the AC power cord to a cable management system using a fastener or tie wrap to insure the EdgeMarc does not hang from the AC outlet.

1. If connecting to an Internet router or Internet DMZ switch, connect the Ethernet cable to the WAN Interface port (Port 2) on the EdgeMarc and the other end to the WAN device.
2. Power on the system.

Powering On the EdgeMarc 2900 series

1. Turn on the EdgeMarc power switch.
2. Make sure that the power and status LEDs on the front panel are solid green after the EdgeMarc powers on.
3. Proceed to [Chapter 5, *Configuring Basic Network Settings*](#).

Configuring Basic Network Settings

This chapter explains how to connect to the EdgeMarc and access the graphical user interface (GUI) to configure basic network settings for the first time. Refer to the *EdgeMarc VOS User Guide* for complete details on how to configure your EdgeMarc device for your network deployment.

- [Connecting to the EdgeMarc for the First Time](#)
- [Deploying the EdgeMarc 2900 series Session Border Controller](#)

Connecting to the EdgeMarc for the First Time

The LAN interface ports are pre-configured with the IP address 192.168.1.1.

1. Connect a computer to the LAN interface port (LAN Port 1) using an Ethernet cable or connect to an Ethernet switch (using the IP address 192.168.1.2 and subnet mask 255.255.255.0).
2. Launch a web browser on your computer and enter the following URL:
<http://192.168.1.1>.
3. Press **Return**. The EdgeMarc login screen is displayed.

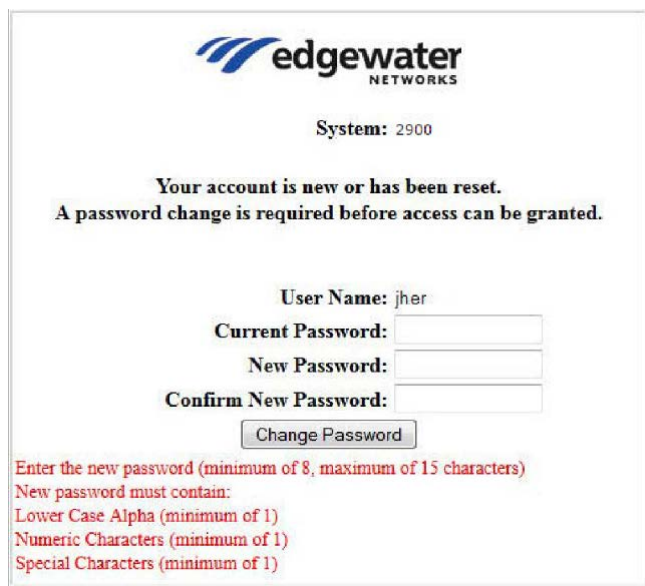
Figure 5-1 EdgeMarc login screen



4. Enter your initial username in the field provided: **root**
5. Enter your initial password in the field provided: **default**

6. Click **OK**.
7. After you have logged in to the system for the first time with the default credentials, you are directed to the Change Password page (Figure 5-2).

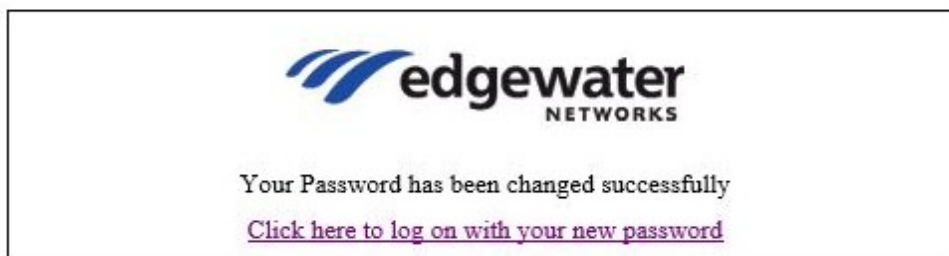
Figure 5-2 Change Password Page



The screenshot shows the EdgeMarc 2900 Change Password page. At the top is the Edgewater Networks logo. Below it, the text "System: 2900" is displayed. A message states: "Your account is new or has been reset. A password change is required before access can be granted." The form includes fields for "User Name:" (pre-filled with "jher"), "Current Password:", "New Password:", and "Confirm New Password:". A "Change Password" button is located below these fields. At the bottom, red text provides instructions: "Enter the new password (minimum of 8, maximum of 15 characters). New password must contain: Lower Case Alpha (minimum of 1), Numeric Characters (minimum of 1), Special Characters (minimum of 1)".

8. Enter your Current and New Passwords in the Change Password Page according to the new password instructions given in the page and then click **Change Password**. The Password Change Confirmation Page will be displayed (Figure 5-3).

Figure 5-3 Password Change Confirmation Page




The screenshot shows the EdgeMarc 2900 Password Change Confirmation page. It features the Edgewater Networks logo at the top. The main message is "Your Password has been changed successfully". Below this message is a purple hyperlink that reads "Click here to log on with your new password".

9. Select **Click here to log on with your new password** from the Password Change Confirmation Page (Figure 5-3).
10. You will be navigated again to the EdgeMarc login screen (Figure 5-4). Log in to the EdgeMarc Admin landing page (Figure 5-5) with your User Name and New Password from the EdgeMarc login screen.

Figure 5-4 EdgeMarc login screen



Figure 5-5 EdgeMarc Admin Landing Page


Admin
[Help](#)

Configuration Menu

- + [Admin](#)
- + [Network](#)
- + [Users](#)
- + [Security](#)
- + [VoIP](#)
- + [VPN](#)

Software Version:
Version 15.0 -- Tue May 17 12:40:58 PDT 2017

Hostname:
2900

Model:
EdgeMarc 2900 with IPv6 support

Vendor:
Edgewater

LAN Interface MAC Address:
54:39:68:0D:4C:D8

Registration Status:
The ALG feature is registered. View [license key](#).

System:
Date : 01/16/2000 14:33:57 UTC
Erase Button : Enabled

Change Administrative Password:
The password of the read-write administrative user can be [changed](#).

Change Read-Only Password:
The password of the read-only user can be [changed](#).

Deploying the EdgeMarc 2900 series Session Border Controller

The EdgeMarc is deployed as a Session Border Controller on the network. For details about how to configure and deploy the EdgeMarc device in your network, refer to the EdgeMarc online help and the *EdgeMarc VOS User Guide* available in the Edgewater Networks Knowledgebase at www.edgewaternetworks.com/kb.

Specifications, Safety, Compliance, and Certifications

Specifications and Certifications

Item	Description	
	2900	2900a
Specifications		
Dimensions	Height 43.18mm / 1.7" Width 234.95mm / 9.25" Depth 165.1mm / 6.5"	Height 43.18mm / 1.7" Width 234.95mm / 9.25" Depth 165.1mm / 6.5"
Weight	2 lbs/0.9072kg (system only)	2 lbs/0.9072kg (system only)
Power	AC Input 100-240V, 0.8A 50-60Hz, DC Output 12V 1.66A, Wall Mount Power Adapter, 20W	AC Input 100-240V, 0.8A 50-60Hz, DC Output 12V 3A, Wall Mount Power Adapter, 36W
Warranty	5 Years	5 Years
Environmental Requirements	Operating Temperature: 32°F to 104°F (0° to 40°C) Relative Humidity: 4% to 90%, non-condensing	Operating Temperature: 32°F to 104°F (0° to 40°C) Relative Humidity: 4% to 90%, non-condensing
Model 2900 Hardware		
EdgeMarc 2900 series	RAM— 1GB, CN7130 CPU, Fan— No, Agency Label— 2900	RAM— 1GB, CN7130 CPU, Fan— No, Agency Label— 2900a
Certifications	RoHS Compliant, WEEE Compliant	RoHS Compliant, WEEE Compliant
Safety	UL/cUL, LVD	UL/cUL, LVD
Emissions	CB, FCC part 15, FCC part 68, IC, CE, RCM, VCCI	CB, FCC part 15, FCC part 68, IC, CE, RCM, VCCI
Max bandwidth (approx.)	1Gbps	1Gbps
WAN	2x GbE dual media (RJ45+ SPF)	2x GbE dual media (RJ45+ SPF)
Optical WAN (SFP) ports	2	2

LAN ports	4	4
MicroSD Card	1	1
FXS (Phone)	0	6
FXO (Line)	0	2
Concurrent calls supported	Up to 300	Up to 300

USA and Canadian Notices



Warning

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

FCC Notice

Class A Digital Device or Peripheral

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

In accordance with Part 15 of the FCC rules, the user is cautioned that any changes or modifications not expressly approved by Edgewater Networks, Inc. could void the user's authority to operate this equipment.

The socket outlet to which this apparatus is connected must be installed near the equipment and must always be readily accessible.

Part 15 FCC Rules

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada (IC)

This Class [A] digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe [A] est conforme à la norme NMB-003 du Canada.

The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s).

The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.



Caution

Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The Ringer Equivalence Number (REN) assigned to each relevant terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices does not exceed 5.

The REN of this equipment is either marked on the unit or included in the new style USA FCC registration number. In the case that the REN is included in the FCC number, the user should use the following key to determine the value:

The FCC number is formatted as US:AAAEQ#TXXX.

is the Ringer Equivalence Number without a decimal point (e.g. REN of 1.0 will be shown as 10, REN of 0.3 will be shown as 03). In the case of a Z ringer, ZZ shall appear. In the case of approved equipment without a network interface

or equipment not to be connected to circuits with analog ringing supplied, NA shall appear.

The REN is useful to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs of all devices that may be connected to a line, is determined by the total RENs, contact the local telephone company.

Canadian Certification Requirements for Bilingual Safety, Warning and Caution Markings

Canadian Federal and Provincial/Territorial statutes and regulations, such as the Consumer Packaging and Labeling Regulation, require the use of bilingual product markings for products sold in Canada and in the province of Quebec, additionally regulated under “The Charter of the French Language.” The bilingual requirements include the safety, warning and caution markings as defined by the Standard or ORD.

The UL Procedure contains the English language markings. It is the sole responsibility of the Applicant and Manufacturer to comply with the applicable Canadian Federal and Provincial/Territorial marking regulation(s) and law(s) in both official languages.

This document applies to all customers of ULs product certification services for the Canadian markets, for example, UL/C-UL/ULC Mark certifications.

View the [Canadian Certification Requirements for Bilingual Safety, Warning and Caution Markings](#) document.

Class A Statements

Japan

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用する
と電波妨害を引き起こすことがあります。この場合には使用者が適切な
対策を講ずるよう要求されることがあります。 VCCI-A

Korea

Class A ITE

기종별	사용자안내문
A급 기기 (업무용 방송통신기기)	이 기기는 업무용 (A급)으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

China

声 明
此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情 况下，可能需要用户对其干扰采取切实可行的措施。

EEA Regulatory Notices

CE Mark R & TTE Directive

This Edgewater EdgeMarc system has been marked with the CE mark. This mark indicates compliance with EEC Directives 89/336/EEC, 73/23/EEC 1999/5/EC.

Declaration of Conformity

English:	Hereby, Edgewater Networks, declares that this EdgeMarc 2900 series is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Česky [Czech]:	Edgewater Networks tímto prohlašuje, že tento EdgeMarc 2900 series je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.

Dansk [Danish]:	Undertegnede Edgewater Networks erklærer herved, at følgende udstyr EdgeMarc 2900 series overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]:	Hiermit erklärt Edgewater Networks, dass sich das Gerät EdgeMarc 2900 series in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Eesti [Estonian]:	Käesolevaga kinnitab Edgewater Networks seadme EdgeMarc 2900 series vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Español [Spanish]:	Por medio de la presente Edgewater Networks declara que el EdgeMarc 2900 series cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]:	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Edgewater Networks ΔΗΛΩΝΕΙ ΟΤΙ EdgeMarc 2900 series ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.
Français [French]:	Par la présente Edgewater Networks déclare que l'appareil EdgeMarc 2900 series est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]:	Con la presente Edgewater Networks dichiara che questo EdgeMarc 2900 series è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]:	Ar šo Edgewater Networks deklarē, ka EdgeMarc 2900 series atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]:	Šiuo Edgewater Networks deklaruoja, kad šis EdgeMarc 2900 series atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]:	Hierbij verklaart Edgewater Networks dat het toestel EdgeMarc 2900 series in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]:	Hawnhekk, Edgewater Networks, jiddikjara li dan EdgeMarc 2900 series jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]:	Alulírott, Edgewater Networks nyilatkozom, hogy a EdgeMarc 2900 series megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Polski [Polish]:	Niniejszym Edgewater Networks oświadcza, że EdgeMarc 2900 series jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC
Português [Portuguese]:	Edgewater Networks declara que este EdgeMarc 2900 series está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

Slovensko [Slovenian]:	Edgewater Networks izjavlja, da je ta EdgeMarc 2900 series v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]:	Edgewater Networks týmto vyhlasuje, že EdgeMarc 2900 series spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]:	Edgewater Networks vakuuttaa täten että EdgeMarc 2900 series tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]:	Härmed intygar Edgewater Networks att denna EdgeMarc 2900 series står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska (Icelandic):	Hér með lýsir Edgewater Networks yfir því að EdgeMarc 2900 series er í samsvar við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC
Norsk [Norwegian]:	Edgewater Networks erklærer herved at utstyret EdgeMarc 2900 series er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF

Restriction of Hazardous Substances Directive (RoHS)

Edgewater Networks products are RoHS compliant, which means we have eliminated or brought to within acceptable limits: Lead, Mercury, Cadmium, Hexavalent Chromium, Polybrominated Biphenyls, and Polybrominated Diphenylethers. For more information please contact:

www.edgewaternetworks.com/support/online-case-management.html

End of Life Products

Edgewater Networks encourages you to recycle your end-of-life Edgewater Networks products in an environmentally considerate way. In accordance with the requirements of the European Waste Electronic and Electrical Equipment (WEEE) Directive, all Edgewater Networks products are marked as recyclable and should not be disposed of in the household or general waste stream.

Important Safety Instructions

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- Do not use this product near water for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.

SAVE THESE INSTRUCTIONS



Warning

For continued protection against risk of fire, replace only with same type and rating of fuse.



Warning

Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.



Warning

To reduce the risk of fire, use only No. 26 AWG or larger (for example, 24 AWG) UL Listed or CSA Certified Telecommunication Line Cord.

Disconnect all power supply cords before servicing.

Disconnect TNV circuit connector before removing cover.

Importantes Instructions de Securite

En utilisant votre équipement téléphonique, veuillez respecter les précautions de sécurité de base pour réduire les risques d'incendie, de choc électrique et de blessure aux personnes, dont les suivantes:

- N'utilisez pas ce produit proche de l'eau, par exemple près d'une baignoire, d'un évier, d'un lavabo ou d'une machine à laver, dans un sous-sol humide ou près d'une piscine.
- Evitez d'utiliser un téléphone (autre qu'un sans fil) durant un orage. Il y a un risque de choc électrique à distance depuis un éclair.
- N'utilisez pas votre téléphone pour appeler en cas de fuite de gaz près de la source de la fuite.

- N'utilisez que le cordon électrique et les piles indiquées dans ce mode d'emploi. Ne jetez pas les piles dans un feu. Elles risquent d'exploser. Vérifiez les réglementations locales pour de possibles instructions spéciales pour le recyclage.

GARDEZ CES INSTRUCTIONS

ATTENTION: Pour une protection continue contre le risque d'incendie, ne changez les piles qu'avec un type et des spécifications identiques du fusible.

ATTENTION: Risque d'explosion si la pile est changée avec un type incorrect. Veuillez recycler les piles usages selon les Instructions.

ATTENTION: Pour réduire le risque d'incendie, n'utilisez qu'un cordon électrique pour les télécommunications certifié UL ou CSA No. 26 AWG ou plus grand (par exemple, 24 AWG).

Déconnectez tous les cordons électriques avant d'effectuer une réparation.

Déconnectez le connecteur de circuit TNV avant d'enlever le couvercle.

License and Warranty Information

This section provides a link to the license information related to the operation of EdgeMarc hardware and software as well as the EdgeMarc hardware warranty.

EdgeMarc Limited Hardware Warranty

For a period of five (5) years from the date Edgewater Networks ships the Product to Purchaser ("Warranty Period"), Edgewater Networks warrants that such Hardware will be (i) free of defects in material and workmanship under normal authorized use consistent with the Hardware Installation Guide instructions and will (ii) substantially conform to Edgewater Networks' published specifications for such Hardware as of the date of Purchaser's order. Purchaser shall notify Edgewater Networks of any non-conformance during the Warranty Period. Purchaser's sole and exclusive remedy and Edgewater Networks' entire liability under this limited warranty shall be for Edgewater Networks, at its sole option, to either repair or advance replace such nonconforming Hardware as set forth in this limited warranty. In case of repair, Purchaser must obtain return authorization verification from Edgewater Networks and return the nonconforming Hardware to a designated repair facility, freight prepaid, with a statement describing the nonconformity. Nonconforming Products must be returned to Edgewater Networks within fourteen (14) business days. If Purchaser fails to return the Product within the specified time frame, Edgewater Networks will charge Purchaser for the cost of new Product purchase. Edgewater Networks may repair such nonconforming Hardware with either new or refurbished equipment. Edgewater Networks will use commercially reasonable efforts to ship replacement Hardware within fifteen (15) business days after receipt of the returned Product to a designated repair facility. In case of advance replacement, if Edgewater Networks in its sole determination and approval deems that advance replacement units are necessary, advance replacement units will be shipped on the same business day for next-day delivery (within the Continental US) if Edgewater Networks receives and acknowledges Purchaser's notification by 1:00 PST. If Edgewater Networks, in its sole and independent determination, deems the Hardware to be allegedly defective or malfunctioning, then Edgewater Networks may refund the purchase price paid by the Purchaser.

EdgeMarc Standard Limited Software Warranty

Contact your local sales representative for warranty details.

Exclusions

This limited warranty shall not apply if Purchaser (or someone acting under Purchaser's control) has (i) altered or modified the Product against the Hardware Installation Guide instructions, (ii) not followed Edgewater Networks instructions for installation, operation, maintenance or repair of the Hardware or Software, (iii) subjected the Hardware or Software to extreme temperatures, electrical stress, misuse, negligence, omissions, physical abuse or accident, (iv) engaged in unauthorized services using the Hardware or Software, and (v) been a victim of an act of God, third-party misconduct, accident, fire, lightning, power surges, outages, or other hazards.

Disclaimer

THE REMEDIES LISTED IN THIS SECTION ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, TERMS OR CONDITIONS WHETHER EXPRESS OR IMPLIED. EXCEPT AS EXPRESSLY SET FORTH ABOVE, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, EDGEWAER NETWORKS DISCLAIMS ALL OTHER WARRANTIES AND REPRESENTATIONS TO PURCHASER OR TO ANY OTHER PARTY REGARDING ANY PRODUCTS OR SERVICES PROVIDED BY EDGEWAER NETWORKS WHETHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE OR NON-INFRINGEMENT, AND ANY WARRANTIES ARISING OUT OF COURSE OF DEALING OR USAGE OF TRADE. EDGEWAER NETWORKS DOES NOT WARRANT THAT THE SOFTWARE IS ERROR FREE OR THAT THE SOFTWARE WILL BE WITHOUT INTERRUPTIONS, BUGS OR OTHER OPERATIONAL PROBLEMS. END USERS MAY HAVE OTHER STATUTORY RIGHTS. HOWEVER, TO THE FULLEST EXTENT PERMITTED BY LAW, THE DURATION OF SATUTORILY REQUIRED WARRANTIES, IF ANY, SHALL BE LIMITED TO THE LIMITED WARRANTY PERIOD SET FORTH ABOVE.

Limitation of Liability

IN NO EVENT SHALL EDGEWAER NETWORKS OR ITS THIRD-PARTY SUPPLIERS BE LIABLE FOR ANY LOSS OF USE, LOST DATA, FAILURE OF SECURITY MECHANISMS, INTERRUPTION OF BUSINESS, OR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND (INCLUDING LOST PROFITS), REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, EVEN IF EDGEWAER NETWORKS OR ITS THIRD-PARTY SUPPLIERS WERE INFORMED OF THE POSSIBILITY OF SUCH DAMAGES IN ADVANCE, AND WHETHER OR NOT ANY LIMITED REMEDY PROVIDED IS FOUND TO HAVE FAILED ITS ESSENTIAL

PURPOSE. EDGEWATER NETWORKS' ENTIRE LIABILITY UNDER THIS AGREEMENT SHALL NOT EXCEED THE AMOUNT ACUTALLY PAID BY PURCHASER TO EDGEWATER NETWORKS. FURTHERMORE, EDGEWATER NETWORKS SHALL NOT BE LIABILE FOR PURCHASER'S OR ANY THIRD PARTY'S SOFTWARE, FIRMWARE, INFORMATION, OR MEMORY DATA CONTAINED IN OR INTEGRATED WITH ANY EDGEWATER NETWORK HARWARE PRODUCT, WHETHER UNDER WARRANTY OR NOT.

Support and Services Agreements

Product support and Services are covered under a separate services agreement. For more information about support and service agreements applicable to this Product, go to www.edgewaternetworks.com

Appendix A

Console Cable Pinout Table

The pinout of the Console cable RJ45-to-DB9 is given below. The Console cable is not included with the device.



PIN	DB9 Signal	DB9 to RJ45	RJ45 Signal	PIN
1	DTR	Pin 1 to Pin 2	RTS	1
2	TXD	Pin 2 to Pin	DTR	2
3	RXD	Pin 3 to Pin 6	TXD	3
4	DSR	Pin 4 to Pin 7	GND	4
5	GND	Pin 5 to Pin 4 and Pin 5	SGND	5
6	DTR	Pin 6 to Pin 2	RXD	6
7	CTS	Pin 7 to Pin 8	DSR	7
8	RTS	Pin 8 to Pin 1	CTS	8