

# HP 640 Redundant/External Power Supply Shelf customer presentation

September 30, 2013



# Agenda

**Overview**

**What's new**

**Key customer needs & benefits**

**SKUs**

# HP 640 Redundant/External Power Supply Shelf

The HP 640 Redundant/External PS Shelf is used with the HP 2920 Switch Series to provide Redundant power to backup internal power supplies in the switches, as well as to provide External power for applications where additional power is required in PoE+ applications.

## What's new:

- Provides Redundant or External power for HP 2920 Switch Series products
- Uses same modular power supplies as the HP 2920 Switch Series
- Comes with 3 empty power supply slots and requires one or more optional power supplies
- In RPS operation can provide backup power for up to 8 switches, with as many as 3 internal power supply failures with one internal power supply failure per zone
- In EPS operation can provide up to 2220 additional watts of PoE+ Power for up to 6 switches
  - 3 Switches with 1440W of PoE+
  - 6 Switches of 1110W of PoE+



# HP 640 Redundant/External Power Supply Shelf



“Redundant power” = keeps the switch running

“External power” = additional PoE+ power budget

## Target customers:

- Mid to large companies seeking Redundant or External power for their HP 2920 Switch Series products

## Target environment:

- Edge access for campus and branch offices requiring high reliability or 1440 Watts of PoE+ Power

## Benefits:

- Flexible and Scalable
- Powerful and energy efficient
- Easy to deploy, use and maintain

# HP 640 Redundant/External Power Supply Shelf



“Redundant power” = keeps the switch running

“External power” = additional PoE+ power budget

## Flexible & scalable

- Uses 1, 2 or 3 optional Modular power supplies
- Scales from supporting 1 switch with 1440 Watts to 3 Switches with 1440 Watts of PoE+
- Supports Redundant Power or External power
- Supports Redundant power for 8 switches
- Supports external power for up to 8 switches

## Optimized power allocation methods

- Allocate and manage power more efficiently
- All management is through any connected switch CLI/SNMP

Allows Up to **2X** more PoE+ power than Cisco per switch

**33%** More switches can be powered than Cisco Solution

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# HP 640 Redundant/External Power Supply Shelf

- The HP 640 Redundant/External Power Supply Shelf uses up to 3 power supplies (purchased separately)
- Each power supply supports a Zone
  - Zone 1 can connect to 4 HP 2920 Series Switches\*
  - Zone 2 can connect to 2 HP 2920 Series Switches
  - Zone 3 can connect to 2 HP 2920 Series Switches
- In the default RPS mode
  - When one internal switch power supply fails all power is directed to the failed unit and no other switches in that zone have RPS coverage (N+1 coverage)
- In EPS Mode, available external EPS power is shared among all enabled power ports
  - To configure full 1440W on a 48 port PoE+ Switch with a 1050W internal supply, install another 1050W supply in the zone, disable all except one XPS port

\* Zone 1 is not recommended to be used to connect to more than 2 PoE+ models.  
When 2 PoE+ switches are connected to a zone, the available POE power budget is ~1/2 to each unit



Front view

Rear view: no supplies



Up to 4 connections    2 connections    2 connections



Rear view: with supplies

“Redundant power” = keeps the switch running

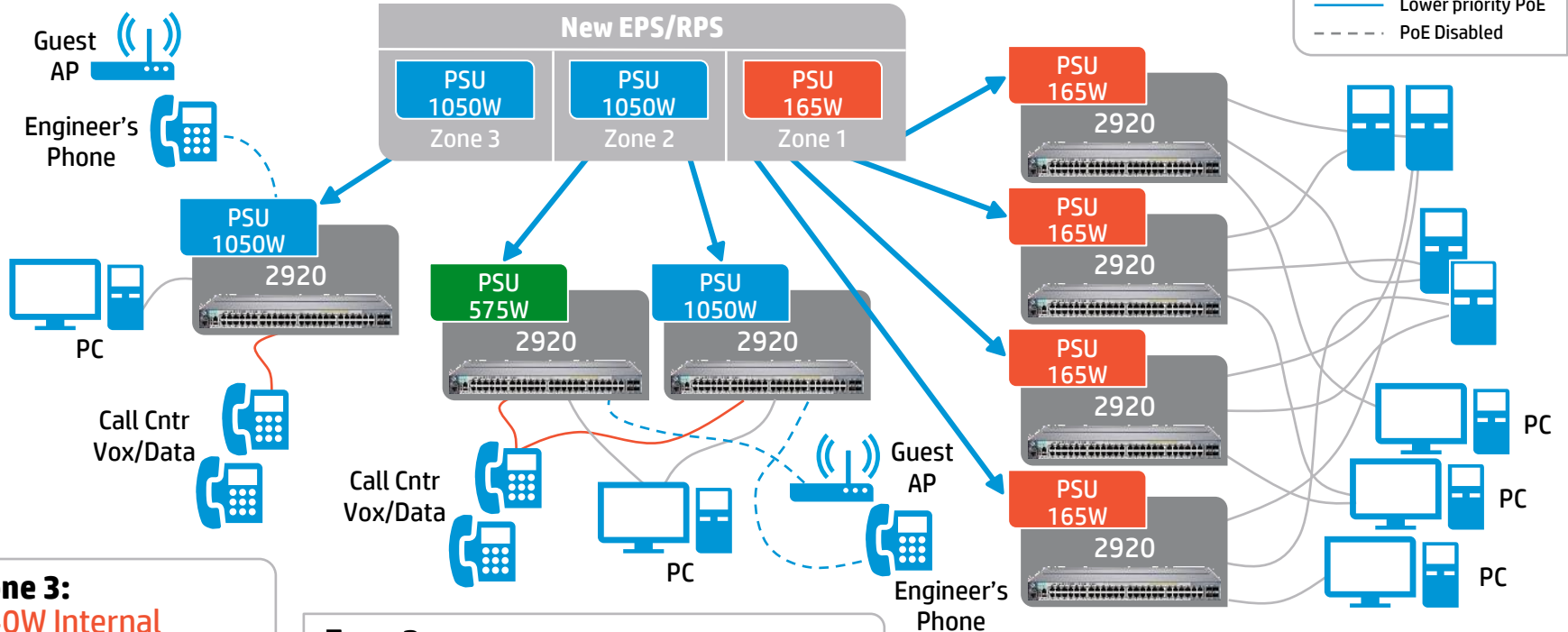
“External power” = additional PoE+ power budget



# N+1 PoE Resiliency with 2920 & 640 RPS/EPS

**Key:**

- Critical HA PoE
- Non-PoE
- Lower priority PoE
- - - - PoE Disabled



**Zone 3:**  
 740W Internal  
 700W External  
 30W, all 48 ports

**Zone 2:**  
 Internal per switch 370W and 740W  
 700W External per switch

**Zone 1:**  
 All four switches continue to operate

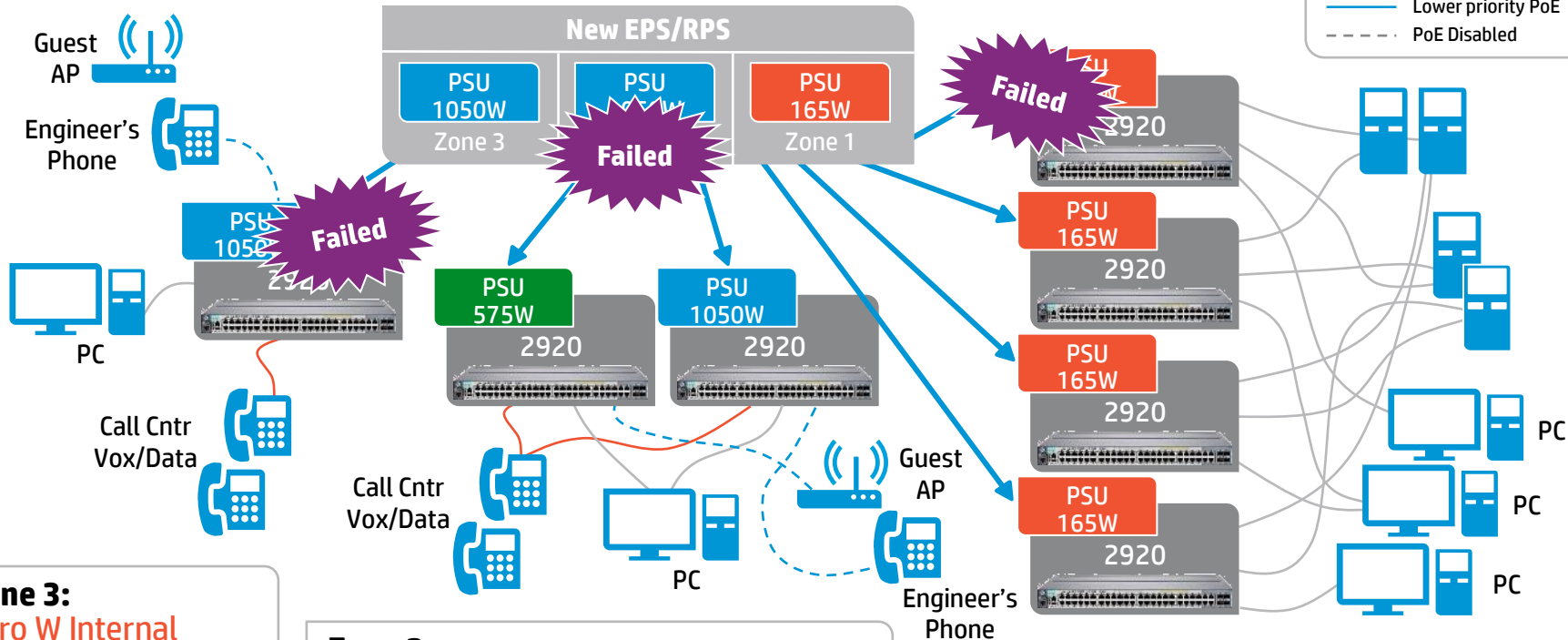




# N+1 PoE Resiliency with 2920 & 640 RPS/EPS

**Key:**

- Critical HA PoE
- Non-PoE
- Lower priority PoE
- - - - PoE Disabled



**Zone 3:**  
 Zero W Internal  
 740W External

**Zone 2:**  
 Internal per switch 370W and 740W  
 Zero W External per switch

**Zone 1:**  
 All four switches continue to operate



# Configuration rules

- A single bay can be used to support a set of either **PoE+** switches or **Non-PoE+** switches. A single HP 640 RPS/EPS Shelf can support both
- Can not mix PoE+ and non-PoE+ switches in the same zone
- The amount of additional PoE+ power budget any switch would gain when attached to the external power shelf is dependent on two things – the kind of power supply inside the external shelf, and the total number of PoE+ switches sharing power in a particular bay \*
- In any particular zone if a power supply fails (either in the HP 640 or in a switch) then the remaining connected switches revert back to their single power supply capacity for PoE+ power budget. Other zones are not affected

\* Zone 1 is not recommended to be used to connect to more than 2 PoE+ models.  
When 2 PoE+ switches are connected to a zone, the available PoE power budget is ~1/2 to each unit



Front view

Rear view: no supplies



Up to 4 connections    2 connections    2 connections

Rear view: with supplies



“Redundant power” = keeps the switch running

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# Configuration rules continued

- A 24 port (J9726A) or 48 port (J9728A) non-PoE+ switch comes with a J9739A 165W power supply
  - You may ONLY connect one of these switches to a zone in the HP 640 with a J9739A power supply in it. It will not work otherwise.
- A 24 port (J9727A) or 48 port (J9729A and J9836A) PoE+ switch may only connect to an HP 640 with a PoE+ power supply in it (either type: 575W or 1050W)
- If PoE+ Switch has a 1050W Supply internal, connecting it to an external 575W supply is not supported.



Front view

Rear view: no supplies



Up to 4 connections    2 connections    2 connections

Rear view: with supplies



“Redundant power” = keeps the switch running

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# HP 2920 Switch (rear panel view)

## HP 2920 Module slots for

- HP 2920 2-port 10GbE SFP+ Module
- HP 2920 2-port 10GBase-T Module



**HP 2920 Stacking Module slot for  
HP 2920 2-port Stacking Module**

**HP 640 Redundant/External Power Supply  
Shelf connector**

**HP 2920 Power Supply slot (removable Power Supply)**

# HP 2920 Switch Series

## Power over Ethernet

### Default configuration

	575W Power Supply (370W PoE power)			1050W Power Supply (740W PoE power)			With HP 640 XPS (1440W PoE Power)		
PoE/PoE+	7W	15W	30W	7W	15W	30W	7W	15W	30W
24 port	24	24	12	24	24	24	24	24	24
48 port	48	24	12	48	48	24	48	48	48



Can fully support total wattage across all ports



Can support total wattage across half of all ports

### Advantages:

- Convenience
- Cost savings
- Deployment flexibility
- Automated on/off of powered devices

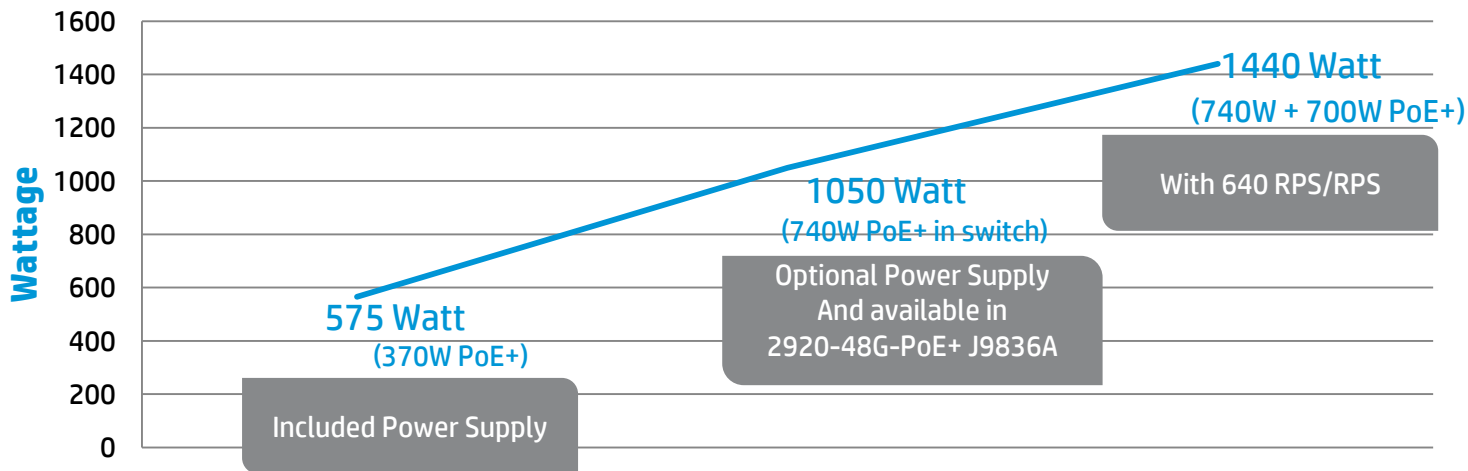


# HP 2920 Switch Series

## Removable power supply

### Removable power supply allows for the ability to:

- Upgrade system power to support additional PoE power for end devices
- Replace defective units immediately without having to rip and replace



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# Branch services must modernize

## Corporate headquarters

- New services to stay competitive
- Increase employee productivity in branch
- Secure corporate infrastructure
- Remote administration

## Branch office

- Slow, unstable access to corporate resources
- Limited IT resources on-site
- BYOD access





# Campus networks are at the breaking point

## Unpredictable performance

- Inconsistent wired and wireless user experience limits productivity

## Swivel-chair management

- Non-integrated network management tools breed inefficiency and is error prone

## Limited agility

- Legacy 3-tier campus networks are inflexible and inhibit scale

## Privacy, availability, and security

- Business continuity and availability of services



# Customer benefits

For campus and branch



Secure



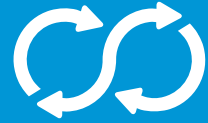
Open



Scalable



Consistent  
Experience



Agile

# Benefit: Consistent experience

## Customers seek solutions that provide a simplified management experience and look to reduce swivel-chair management

- IT needs innovative and easy-to-use CLI, Web UI, and Ethernet and USB management ports
  - The HP 640 Redundant/External Power Supply Shelf is configured and managed through the HP 2920 Series switches CLI and SNMP
- Supported by HP Intelligent Management Center (IMC) to provide a single view of the entire network infrastructure
- Commonality with ProVision software allows for easier setup and management throughout an enterprise network due to common updates, bug fixes, and feature set implementation



# Benefit: Scalable

**As new media-rich applications are being deployed on networks, customers are looking for high performance and scalable network infrastructure solutions to meet their needs today and into the future**

- Supporting 1 to 8 switches for Redundant Power
- Supporting 3 switches of full 1440W of PoE+ power for high power desktop applications



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# HP 640 Redundant/External Power Supply Shelf

## Overview

### The HP 640 Redundant/External Power Supply Shelf Products are:

- HP 640 External/Redundant Power Supply Shelf (J9805A)
- HP 640 EPS/RPS 1m Cable (J9806A)

### Power Supplies

- HP X331 165W 100-240VAC to 12VDC PS (J9739A)  
(Non-PoE models only)
- HP X332 575W 100-240VAC to 54VDC PS (J9738A)  
(Up to 370W of PoE+ power budget)
- HP X332 1050W 110-240VAC to 54VDC PS (J9737A)  
(Up to 740W of PoE+ power budget)

HP X410 Rail Kit (J9583A)



# HP 2920 Switch Series and HP 640 Redundant/External Power Supply Shelf

HP Network Management

HP Intelligent Management Center  
Standard & Basic Software Platform



**HP 2920 Switch Series can be managed by HP's Network Management Software**



# Thank you

