



What are your Core Beliefs?

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Introduction



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20+ years in the Custom AV industry
Access Networks dealer since 2007
CEDIA Certified Networking Specialist
CEDIA Certified Instructor
Ruckus Wireless WiSE certified
Member of the CEDIA Tech Council



Access Networks

WWW.ACCESSCA.COM

Provides industry-leading, enterprise-grade networking solutions for the modern home
Custom network design and support
Certified IT team with a background in both the IT and AV industries

What are your Core beliefs?

Profit is not and should never be a four letter word.

Becoming systematic and repetitive is essential to business profitability, reliability and overall success. Networking, at its Core, lends itself very well to the concept of modularization and creation of repetitive processes and solutions that ensure stability, efficiency, reliability, and therefore overall profitability.

Agenda

- Start with the Core: How to streamline network deployment
- How will creating a repetitive network deployment process increase my profitability and success?
- Introduction to Ruckus ICX, next generation enterprise-grade switches configured for the residential market
- Understanding Access Networks' Core2 & Core3, a new custom programmed network solution based on Ruckus products

Start with the Core: How to streamline network deployment

- ❖ Develop a thorough Client Needs Analysis
 - Utilize a comprehensive and standardized LAN design process
 - Ensure proper RF design
 - Do the same thing every time
 - Outsourcing – When and Why?
 - Every project begins and ends with proper documentation

Start with the Core: How to streamline network deployment



Document, Document, Document!!!!

The key to successful network design, deployment, and long term support is proper documentation procedures.

At the onset, asking the correct questions of your client ensures that your network design will compliment their lifestyle and exceed their expectations. Documenting their answers ensures that you will have data to reference now and in the future.

A client's perception of how important the network is begins to change as you ask a greater number of questions and you are able to truly develop an understanding of how they will use the network.

Start with the Core: How to streamline network deployment



Evaluating Client Networking Needs

Who will be using the LAN?

How will the LAN be used?

What devices will your client be using?

How will ISP speed effect my LAN design?

Basic Wireless LAN design questions.



Start with the Core: How to streamline network deployment

Utilize a comprehensive and standardized design process

Project type – Residential/Single Story/Multiple structure...

Building sizes and construction materials

WAN/ISP speed

Number of switch locations and total port requirements

Detailed list of all potential client devices and PoE needs

Deep understanding of who will use the network

Please email this request form with Project name in the subject line to: design@accessca.com

To expedite your request for a fully engineered custom system, please provide the following information. After we receive all the requested information please allow 5 days for design completion. If you have a time constraint let us know so we can try to accommodate your timeline.

ACCESS NETWORKS

Your Name: [] Company Name: [] Contact E-mail: []
Project Name: [] Project Street Address and Zip Code: [] Contact Phone #: []
Date of Request: [] Date Estimate Required: []

1. Type of Request ☐ Wireless Only ☐ Wired and Wireless ☐ Both ☐ Other []

2. Total indoor livable square footage we need to cover wirelessly for each detached building

Building Name (e.g. main, guest, pool...)	Livable Space ft²	Wire length from Bldg. 1	Copper (300' Max)/Fiber
Building 1	[]	[]	[]
Building 2	[]	[]	[]
Building 3	[]	[]	[]
Building 4	[]	[]	[]
Building 5	[]	[]	[]
Total:	0		

3. Please describe the building type and building materials or provide structural plans if you have them.

Check all that apply

Building Type	Building Materials
<input type="checkbox"/> Residential	<input type="checkbox"/> Basic stick and drywall const.
<input type="checkbox"/> Commercial*	<input type="checkbox"/> Interior concrete/masonry walls
<input type="checkbox"/> Apartment	<input type="checkbox"/> Concrete between floors
<input type="checkbox"/> In a High Rise	<input type="checkbox"/> Radiant heated floors
<input type="checkbox"/> Condo	<input type="checkbox"/> Large Steel Beams/Steel Studs
<input type="checkbox"/> Multiple Detached Buildings	<input type="checkbox"/> Marble/Stone Flooring
<input type="checkbox"/> Single Detached Building	<input type="checkbox"/> Other []

4. Provide a PDF copy of the floor plans with room names. [Not Available]

5. Do you want outdoor wireless coverage? [] Site or Landscape Plans attached? []

6. Do you have any wiring constraints? [] If yes, please specify the reason and available data wire locations.

7. Max number of connected wireless clients. []

8. Wired Network ☐ Only provide the information below if you are in need of a complete wired and wireless solution

Please tell us about your Internet Service Provider (ISP): Provider [] Type [] Speed []

Automation Control Systems	IP Lighting Control Systems	IP CCTV System	Video Streaming Systems	Audio Streaming Systems	Switch Location Name	Port quantity required	Number of PoE ports required
N/A	N/A	N/A	N/A	N/A			
Qty. of IP devices	Qty. of IP devices	Qty. of IP Cameras	Qty. of IP devices	Qty. of IP devices			
N/A	N/A	Cameras connect to:	N/A	N/A			
Qty. of IP devices	Qty. of IP devices	Network Switch	Qty. of IP devices	Qty. of IP devices			

Port Total 0 0

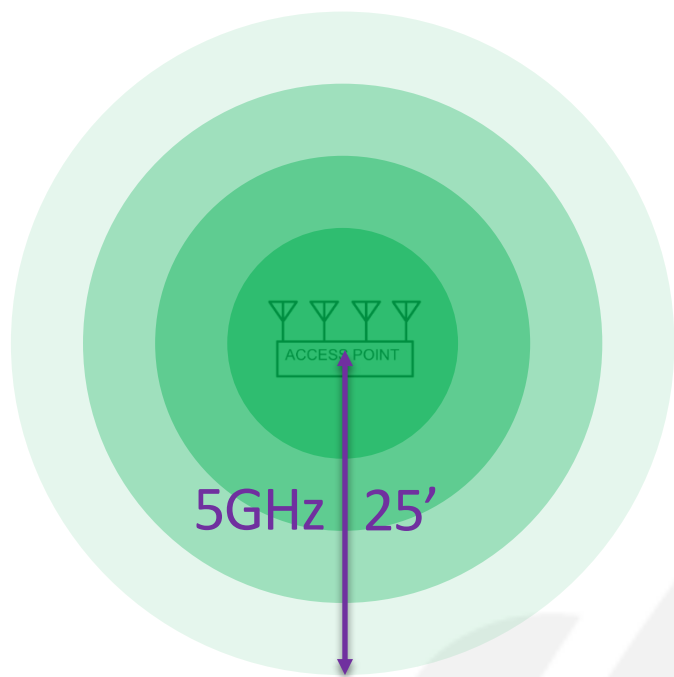
When your project size requires more details than this form provides space, please include the additional information in the email submission of this form to design@accessca.com.

Start with the Core: How to streamline network deployment

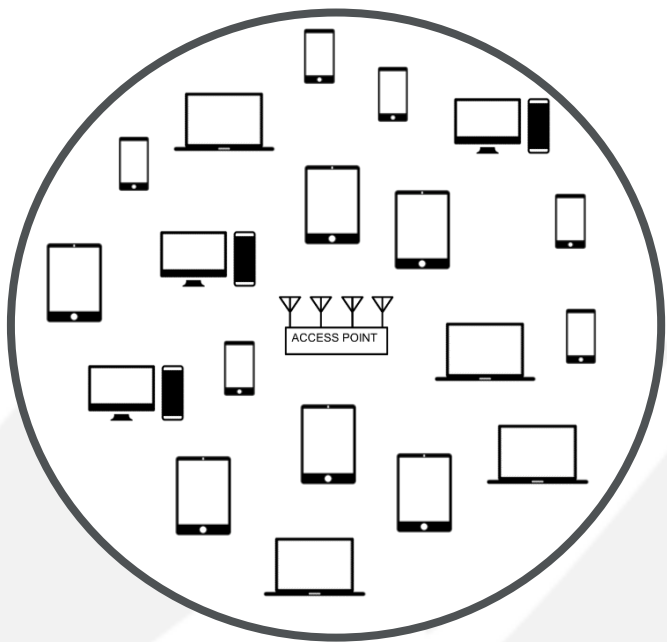
Ensure proper RF design

The three C's of wireless network design

Coverage
Capacity
Clients



>1900sqft requires multiple
access points @1500sqft each



Designs must include the total
number of client devices that
try to authenticate.



Each type of client has unique
requirements.

Start with the Core: How to streamline network deployment



Do the same thing every time.

Using the same hardware and software every time leads to technician familiarity which will produce more efficient deployments and troubleshooting

Standardize on an IP scheme for both Flat and Multi-VLAN designs

Standardize on a single VPN/Remote access solution

Choose scalable products lines to ensure wider product selection and greater interoperability of products regardless of product scale

Start with the Core: How to streamline network deployment



Outsourcing – When and Why

The strongest companies know that having reliable partners, to whom they can outsource portions of their overall workload, leads to a higher quality client experience.

- Purpose dedicated and higher trained personnel
- Decreased deployment times and fixed profitability
- Use of the best performing product lines which have been fully vetted
- Use of verified and repetitive designs with highly tested configurations
- Rapid and problem free deployments which also provide long term stability
- Meet or exceed expectations, which by proxy, means you will as well to your clients

A repetitive network deployment will increase your profit and success



Product selection for repetition – and scale

IP address standardization

Standardized config files provide for easy deployment

Technician familiarity

Document

How will creating a repetitive network deployment process increase my profitability and success?



Product selection for repetition – and scale

Switching product lines as a project evolves in scale can dramatically increase design, deployment, and troubleshooting times. This can lead to a substantial decrease in profit and ultimately damage client confidence.

Selecting product lines that can scale with your projects while maintaining consistency in configurations increases efficiency, profitability, stability, and the client experience

Fewer product lines ensure that technicians have a greater familiarity with each product

Higher sales with fewer manufacturers leads to increased margin and buying power

How will creating a repetitive network deployment process increase my profitability and success?

IP address standardization

Similar devices should always use the same IP address or range of addresses

Decreases both deployment times and troubleshooting times

Clear processes and procedures lead to shorter training times with new employees and encourages cross training of existing employees

Power Devices			
192.168.19.	190	Primary LAN UPS	SugreX
192.168.19.	191	Primary LAN PDU	SugreX
192.168.19.	192	Secondary LAN PDU	SugreX
192.168.19.	193	Primary AV PDU	SugreX
192.168.19.	194	Secondary AV PDU	SugreX
192.168.19.	195	Theater PDU	SugreX
192.168.19.	196		
192.168.19.	197		
192.168.19.	198		
192.168.19.	199		
Control Devices			
192.168.19.	200	Main House Processor	Crestron
192.168.19.	201	Lighting Processor	Crestron
192.168.19.	202	Theater Processor	Crestron
192.168.19.	203	AppleTV 1 NVX	Crestron
192.168.19.	204	AppleTV 2 NVX	Crestron
192.168.19.	205	Bluray NVX	Crestron
192.168.19.	206	DirecTV1 NVX	Crestron
192.168.19.	207	DirecTV2 NVX	Crestron
192.168.19.	208	DirecTV3 NVX	Crestron
192.168.19.	209	DishNetwork NVX	Crestron

How will creating a repetitive network deployment process increase my profitability and success?

Standardized configuration files provide for easy deployment

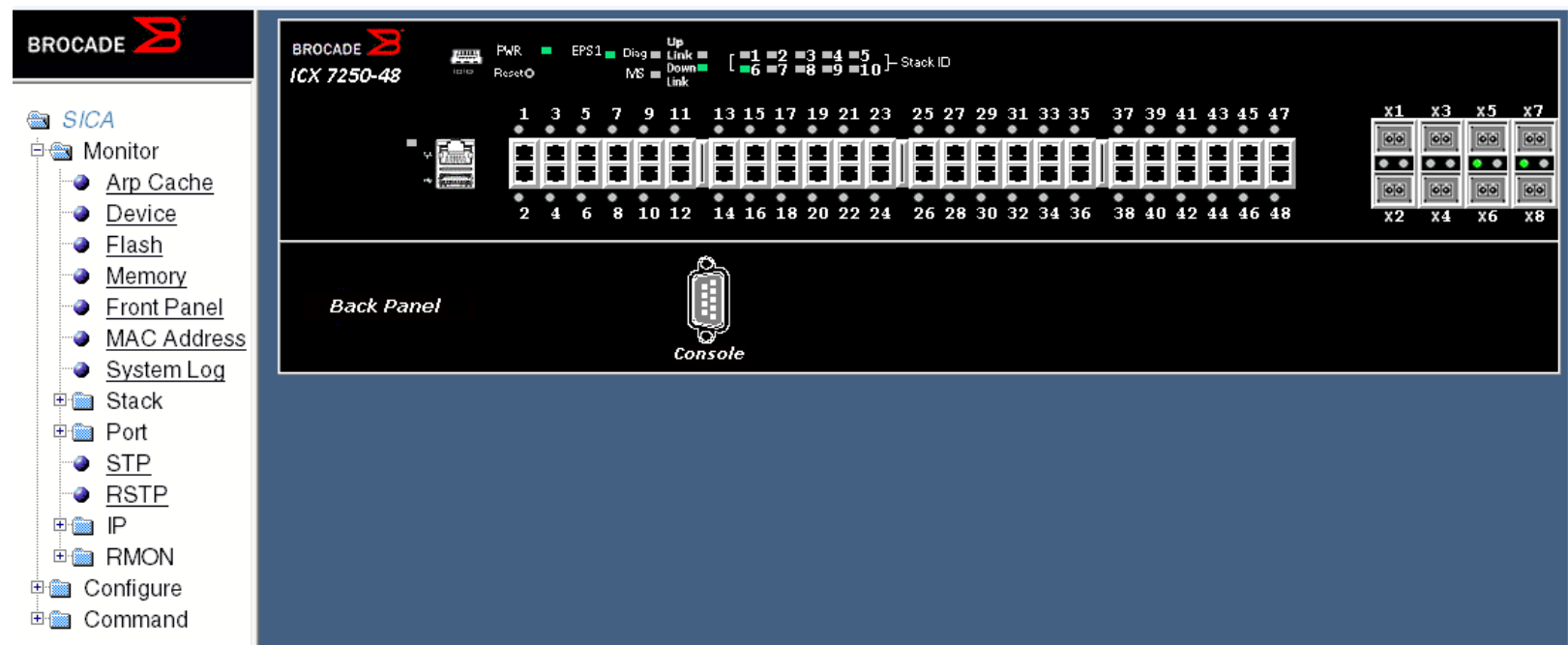
The performance and reliability of great hardware still rests upon the quality of its configuration and programming.

- Standardized programming and configuration schemes
- Configurations that have been tested and retested repeatedly
- Different configuration settings or schemes for different LAN deployments
- Standardized and tested parameters should be documented and have defined use cases established for when to implement each.

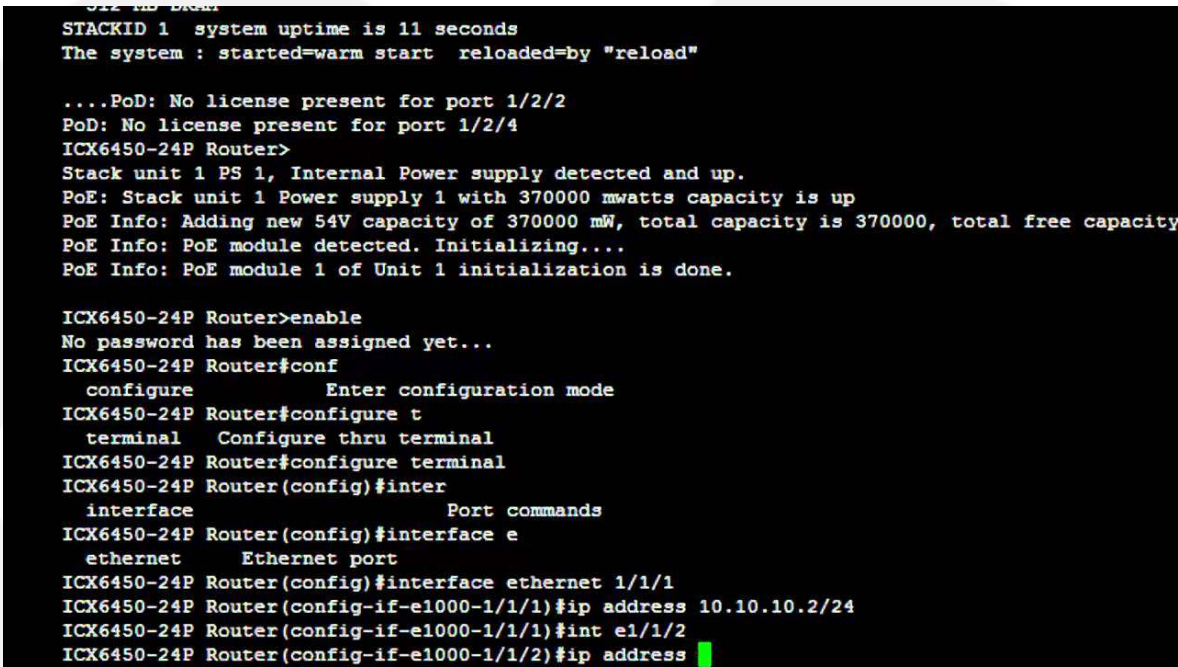
How will creating a repetitive network deployment process increase my profitability and success?

Standardized configuration files provide for easy deployment

Web based interfaces generally require you to document a step by step process that can be repeated each time, whereas products that use CLI, will generally allow for uploading of previously defined and tested configurations thereby greatly reducing the time needed for deployment and potential troubleshooting



Web based Interface example



CLI (Command Line Interface) example

How will creating a repetitive network deployment process increase my profitability and success?



Technician familiarity – focus on limited number of brands

It is imperative that your employees be familiar with how a particular product or product line is expected to perform.

This leads to decreased deployment times and substantially more rapid troubleshooting

The fewer brands your company specifies, the more familiar each technician will be with the nuances associated with that brand

Familiarity leads to definable and repeatable processes which produces profitability

How will creating a repetitive network deployment process increase my profitability and success?



Document, Document, Document!!!!

Document your standardized IP schemes.

Define standard addressing used for network infrastructure hardware

Define thresholds used in the design process to identify network configuration selections

Define the vetted configurations appropriate for defined LAN configurations

Ensure that the application procedure for the configurations is well documented and easily referenced by all levels of programming staff

Introduction to Ruckus ICX



Past vs future of network hardware

Licenses for upgrades rather than hardware upgrade

Advantages of scale

Stacking – what is it and why should I utilize it?

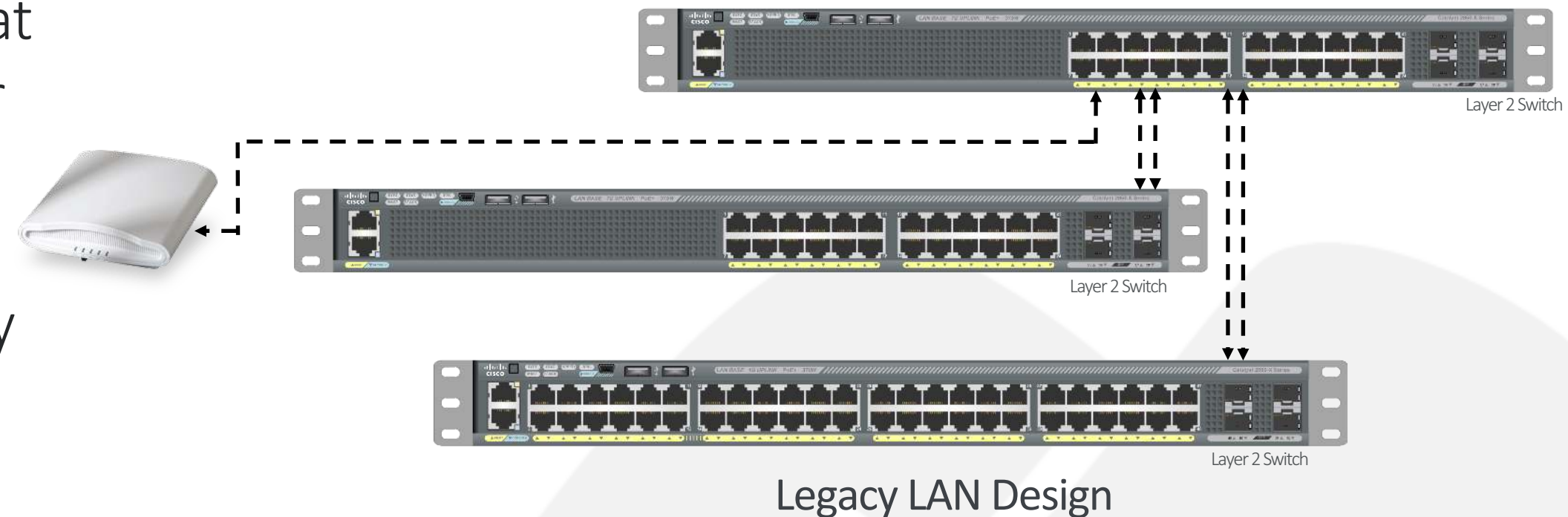
Introduction to Ruckus ICX



Historically LAN upgrades required a hardware upgrade

Smaller installations, that only have a low number of devices, especially those that are not latency sensitive, usually perform well on a flat network.

What happens when the LAN requirements grow?

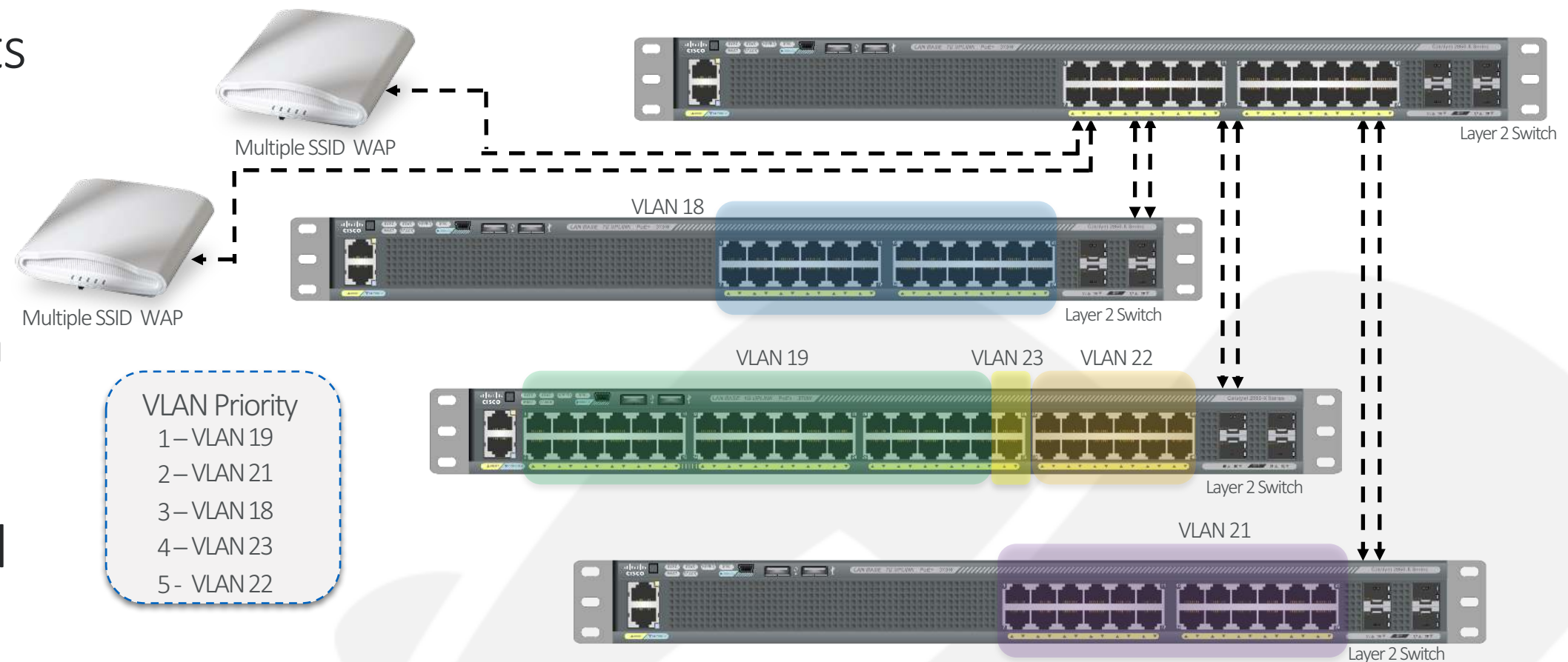


Introduction to Ruckus ICX



In the past LAN upgrades required a hardware upgrade

As the LAN requirements grow to include more infrastructure devices and the need for VLANs the only proper solution is to replace the layer 2 core or add a Layer 3 core switch to handle all inter-VLAN routing.



Legacy LAN Design

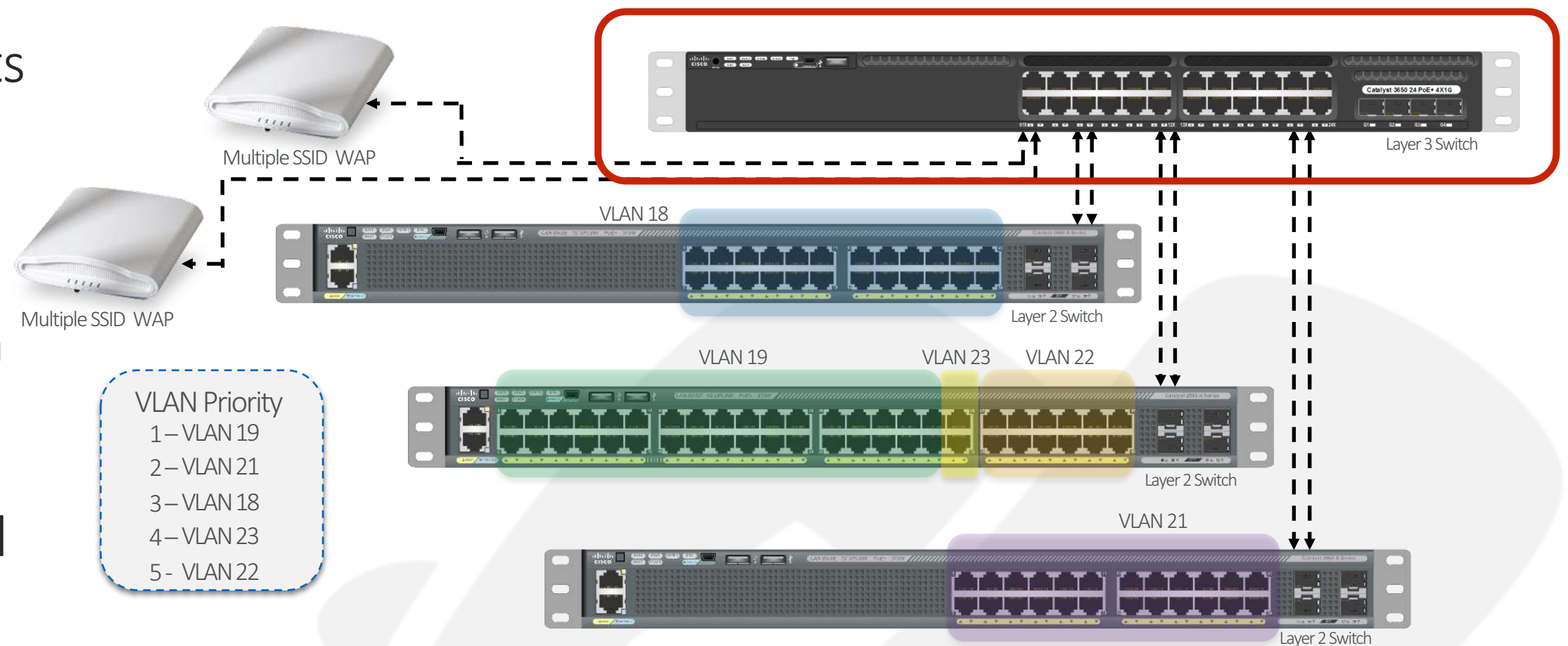
Introduction to Ruckus ICX



In the past LAN upgrades required a hardware upgrade

As the LAN requirements grow to include more infrastructure devices and the need for VLANs the only proper solution is to replace the layer 2 core or add a Layer 3 core switch to handle all inter-VLAN routing.

Until now.....



Legacy LAN Design

Introduction to Ruckus ICX



Ruckus ICX - Next generation enterprise-grade switches

Truly enterprise grade product easily configured for the residential market.

Switches with various port quantities and PoE capabilities – 12, 24, and 48 ports with PoE, PoE+, and PoH power over ethernet standards supported.

Supporting a range of RJ45 ports capable of 1GbE, 2.5GbE, or 10GbE along with SFP+ ports capable of 1GbE, 10GbE, or 40GbE over fiber



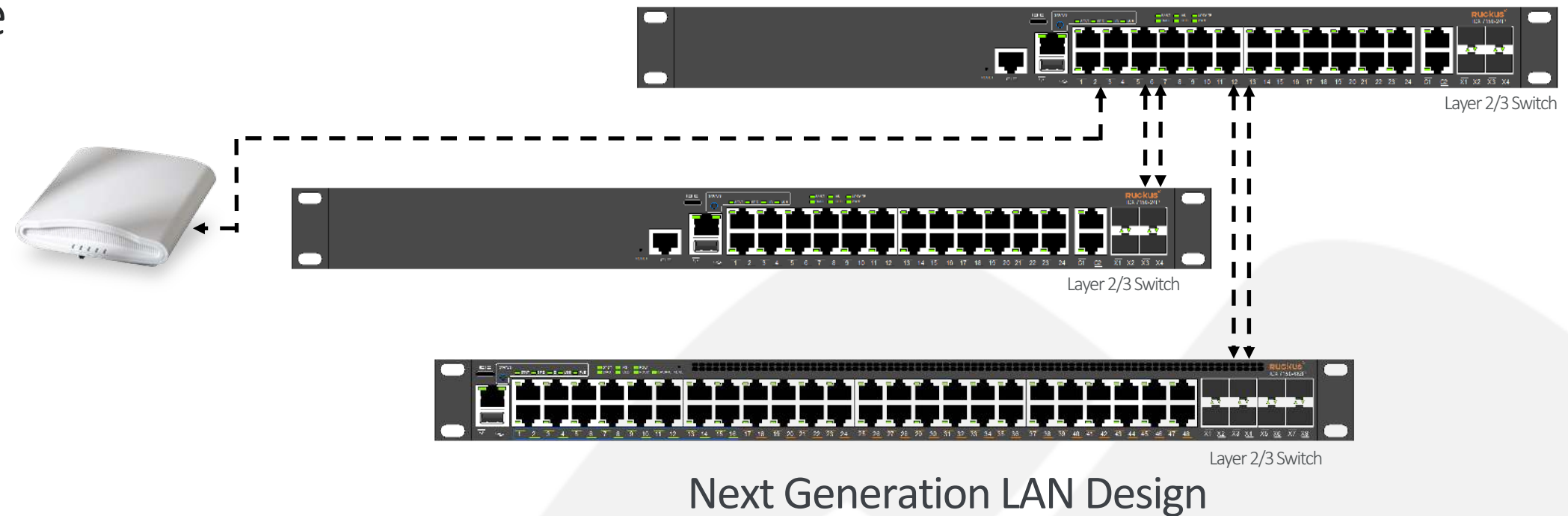
Ruckus ICX 7150 Switch line

Introduction to Ruckus ICX



Licenses for upgrades rather than hardware upgrade

With the Ruckus ICX line of switches, as the LAN requirements grow,



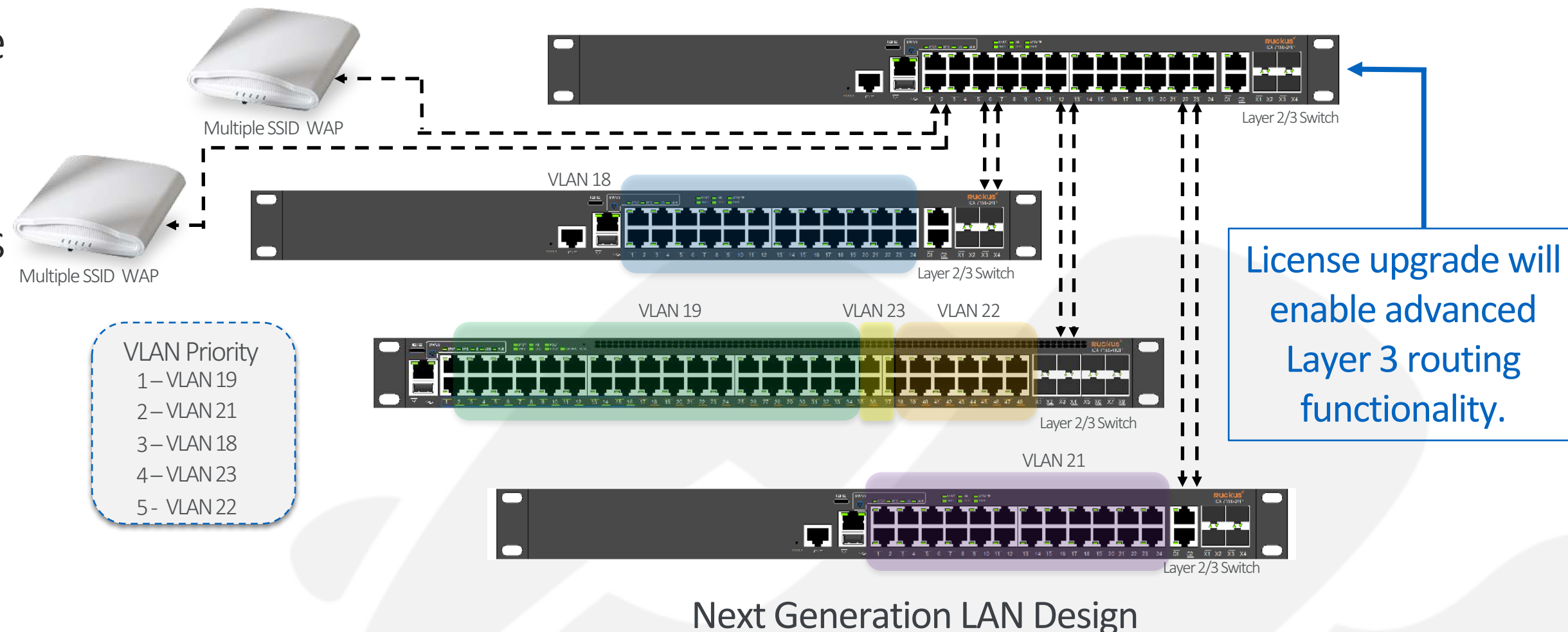
Introduction to Ruckus ICX



Licenses for upgrades rather than hardware upgrade

With the Ruckus ICX line of switches, as the LAN requirements grow, the only upgrade required is a licensing upgrade.

The switch hardware is already Layer 3 capable.



Introduction to Ruckus ICX



Licenses for upgrades rather than hardware upgrade

License upgrades are substantially lower cost than hardware upgrades and can be added as needed in a variety of levels.

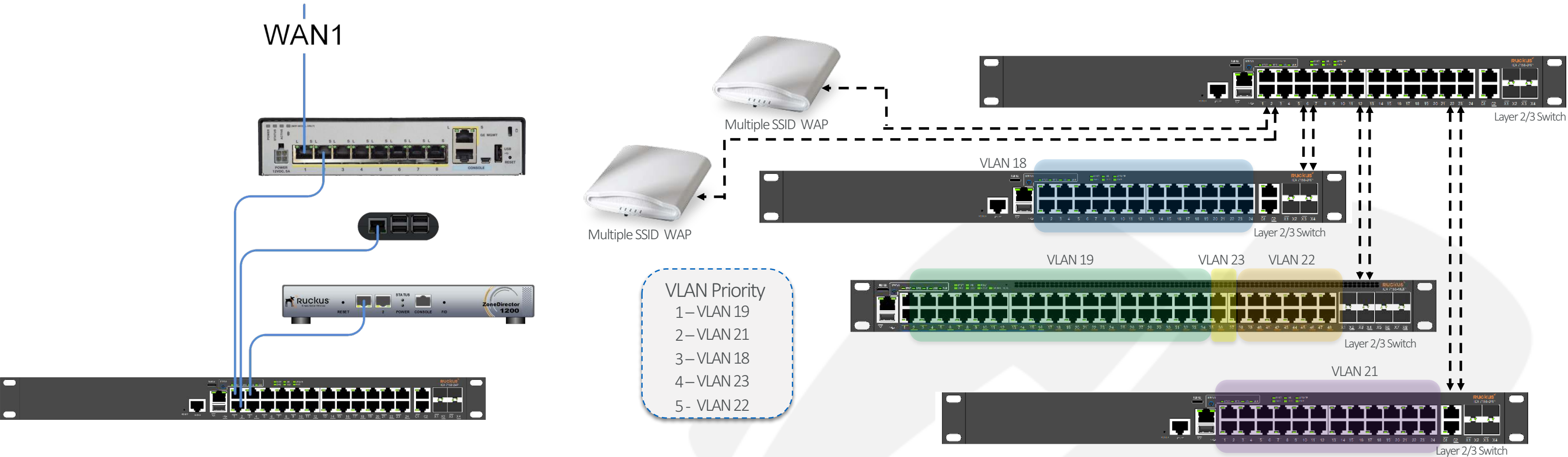
- example - add an advanced Layer 3 license today
 - add 2x10GbE fiber licenses in 18 months when needed

Maintaining on premise hardware minimizes client disruption.

This keeps the cost of ownership much lower and promotes more rapid upgrades.

Introduction to Ruckus ICX

Advantages of scale



Introduction to Ruckus ICX



Stacking – what is it and why should I utilize it?

Multiple “Stacking capable” network switches can be set up to operate together as a single group or “Stack” of switches showing the characteristics of a single switch but having the port capacity of the sum of the combined switches



Introduction to Ruckus ICX



Stacking – what is it and why should I utilize it?

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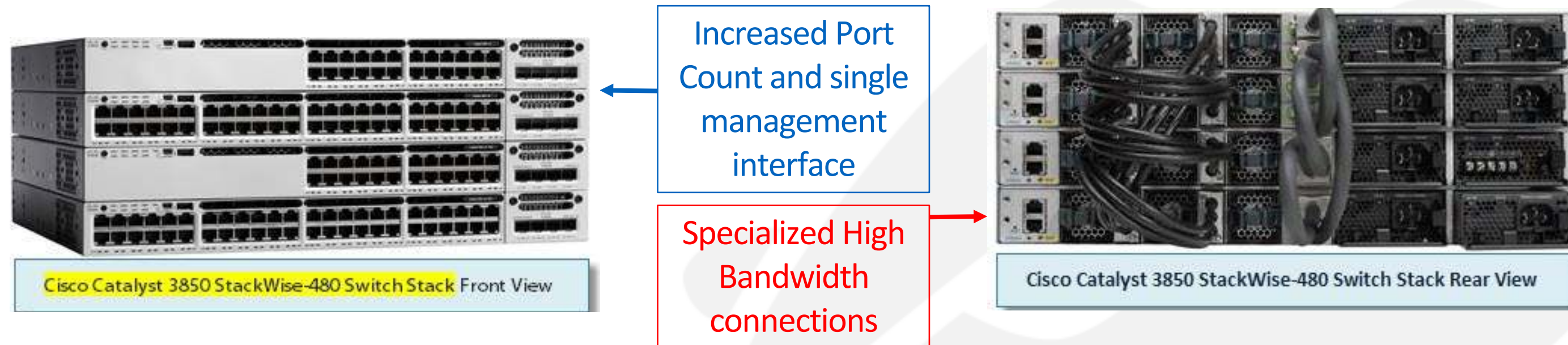
Simplified network administration: A group of stacked switches utilizes a single management interface. This simplifies the setup and operation of the network.



Introduction to Ruckus ICX

Stacking – Then and Now

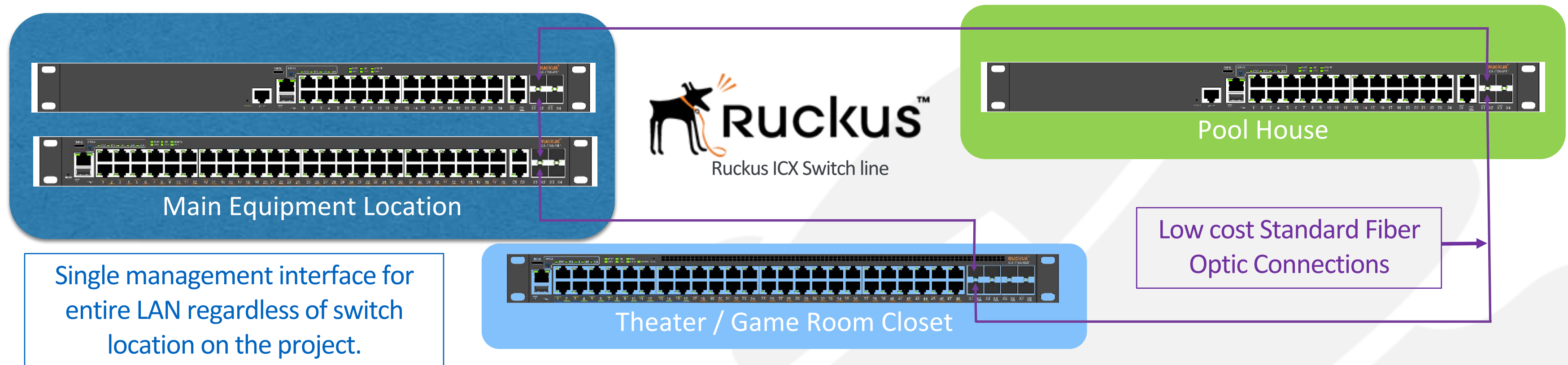
Older Stacking Configurations required that all LAN switches be located in the same location and used very expensive High Bandwidth Connections



Introduction to Ruckus ICX

Stacking – Then and Now

Modern Stacking Configurations allow LAN switches be located in multiple locations and use low cost fiber optic connections for unification.



Understanding Access Networks' Core2 & Core3, a new custom programmed network solution based on Ruckus products.



Core 2/3 - Outsourced Custom LAN Solutions

Industry best support

Plug-n-Play

Scalable

Repeatable

Support advantages

Understanding Access Networks' Core2 & Core3, a new custom programmed network solution based on Ruckus products



Core 2/3 - Outsourced Custom LAN Solutions

Enterprise-grade custom network solutions specifically designed for the automated residence

Plug-and-Play ready to deploy networks with full visibility and Live Monitoring, supported by an industry leading team of certified support engineers.

Leveraging the power of the Ruckus Wireless and ICX product lines, along with configuration settings developed over the past 13 years, Core2/3 LAN solutions provide the highest stability, inherently repeatable, and most scalable network solutions available to the residential market.

Understanding Access Networks' Core2 & Core3, a new custom programmed network solution based on Ruckus products



Industry best support

Dedicated support engineers certified in the IT channel with a keen insight into the residential AV channel.

Standardized design processes included provide a fixed cost, fully engineered LAN solution specifically configured for each project's requirements.

Included project documentation provides presale engineering, network infrastructure as-built, and system settings and credentials documentation

Deployed system support provided by the same engineers whom initially configured the system ensures superior efficiency and the highest level of client experience.

Understanding Access Networks' Core2 & Core3, a new custom programmed network solution based on Ruckus products

Plug-n-Play

Core 2/3 systems are preconfigured based upon your requested LAN settings

All Core 2/3 systems include:

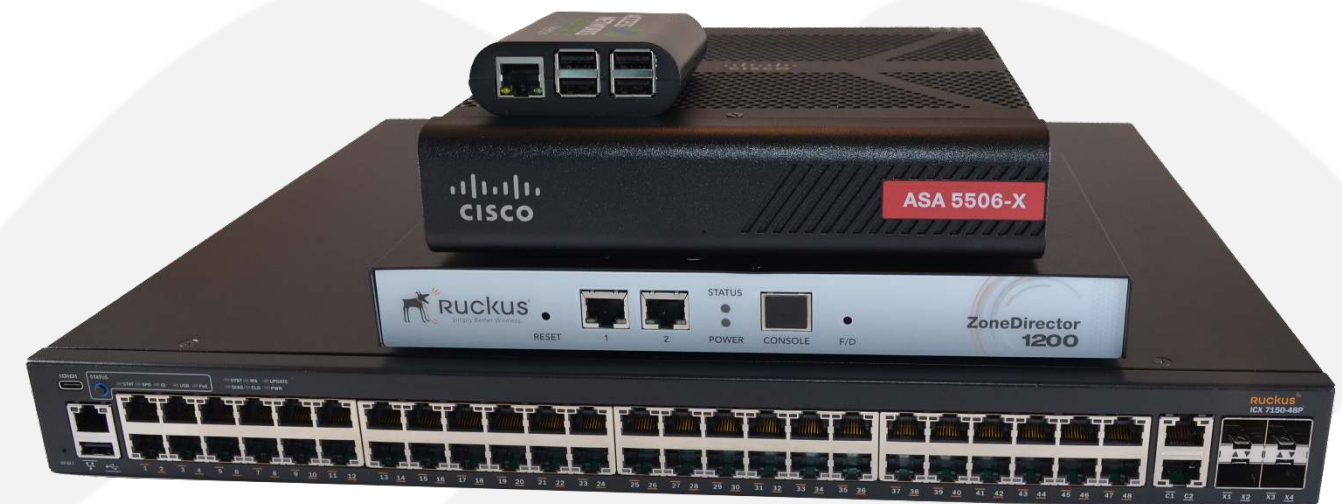
- Cisco Router/Firewall

- Wireless Controller

- Ruckus ICX Primary Switch (Various models)

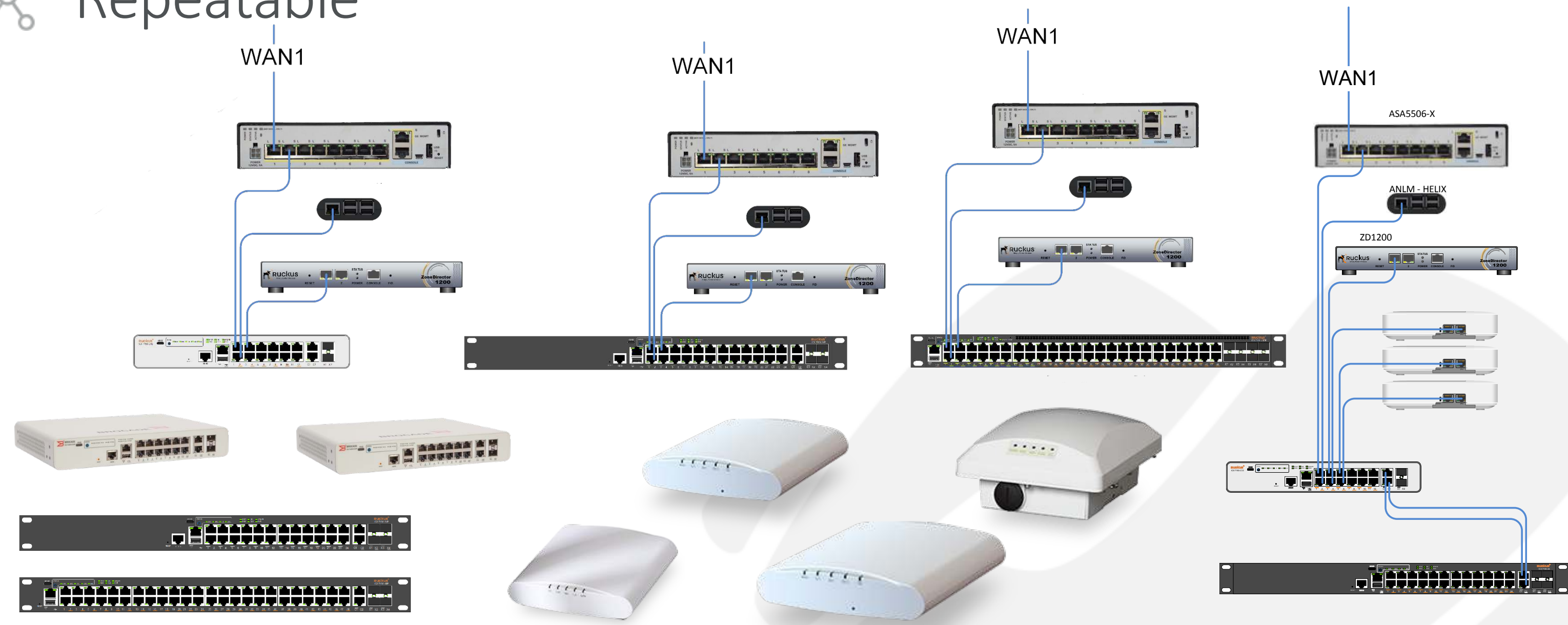
- Helix Live Monitoring Device

- 1 year of Access Networks Live Monitoring Service



Understanding Access Networks' Core2 & Core3, a new custom programmed network solution based on Ruckus products

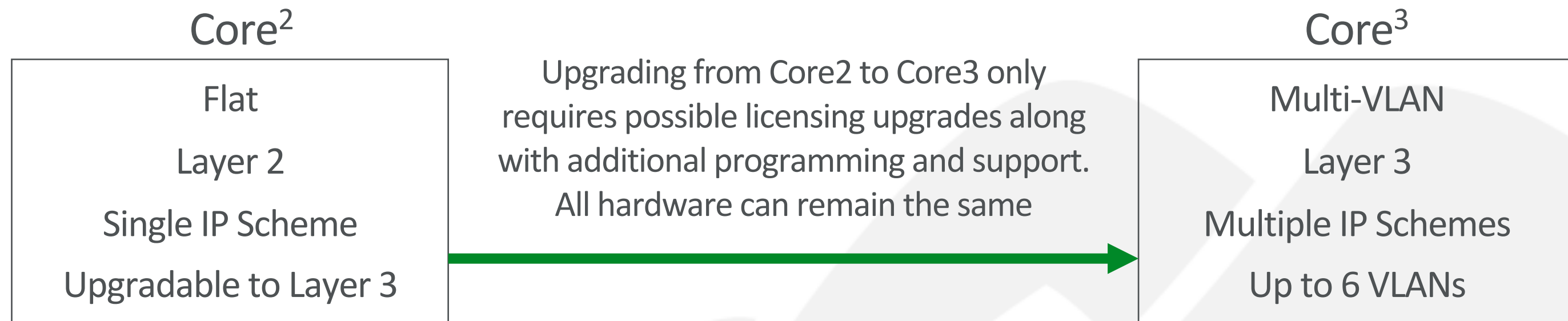
Repeatabile



Understanding Access Networks' Core2 & Core3, a new custom programmed network solution based on Ruckus products

Scalable

Core 2/3 solutions are based upon the Ruckus ICX switch lines and are therefore inherently scalable while maintaining substantial cost benefits over competing products.



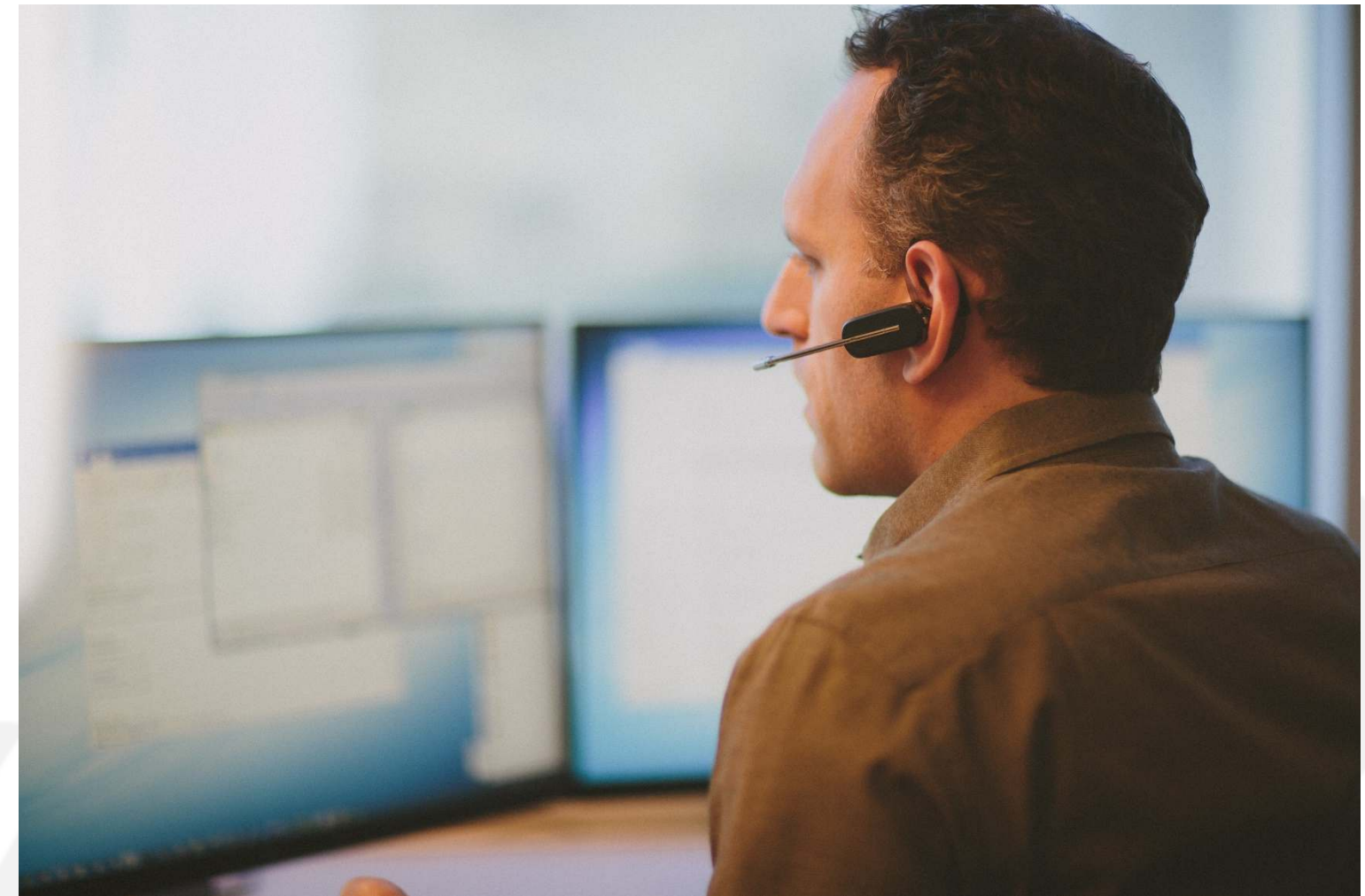
Additionally, the wide range of Access Networks access points, powered by Ruckus, utilized in Core2/3 systems, ensure high performance Wi-Fi for any environment

Understanding Access Networks' Core2 & Core3, a new custom programmed network solution based on Ruckus products

Support advantages

Support call wait times <1 min and engineers that understand the residential market

All Core2/3 systems include 4 years of hardware warranty and standard technical support as well as a pre-configured Helix with an active ANLM service plan for the 1st year.



Understanding Access Networks' Core2 & Core3, a new custom programmed network solution based on Ruckus products

Support advantages

ANLM Helix service includes emergency after-hours support with proactive monitoring and triage provided by Access Networks engineers for all Access Networks provided devices as well as next business day advanced hardware replacement for all Access Networks products.



Live Monitoring Helix Device



Summary

- The importance of streamlining network deployment
- How a repetitive network deployment process can increase profitability and success
- Introduced Ruckus ICX Next Generation enterprise grade switches uniquely suited for the residential market
- Revealed Access Networks Core2/3 custom network solutions to be released on 12/11/2017

THANK YOU

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Q & A



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