HP accelerates the disaggregation of Web-scale data center networking

Empowering customers to reduce time to service and grow business

Introduction
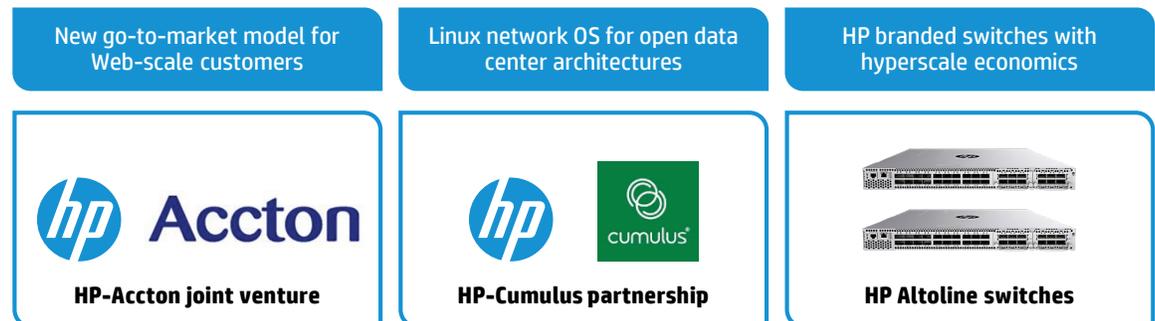
Q: What is HP announcing today?

A: HP is accelerating the disaggregation of cloud data center networking via a new business model that is based on a unique go-to-market model with direct sales and purchasing, Linux® network operating system, and new open networking HP Altoline switches, that provide customers with more choice, higher scale, and lower TCO.

- HP is announcing a new joint venture (JV) with Accton Technology that is dedicated to providing data center disaggregated networking solutions to hyperscale customers, service providers, and adjacent enterprises. The JV rests on a go-to-market model that makes HP the first Tier 1 systems vendor to offer servers and switches that meet the business model, features, and cost requirements of next generation Web-scale data center operators. HP solutions provide customers with quality, worldwide local support, and reliable supply chain and technology services in addition to the ease of purchasing from a single source for hardware, software, support and integration needs. As a leader in the data center server market, HP is well positioned to offer integrated product offerings at the rack and pod level.

- HP is also announcing a new partnership with Cumulus Networks. The HP-Cumulus Networks partnership expands customers' choices of open networking to include new HP Altoline switches with ONIE boot loader and Cumulus Linux networking operating system. Web-scale data center managers can now build their networks with proven HP switches using Comware operating system, or utilize new HP Altoline switches with Cumulus Linux for consistent automation and orchestration across both servers and networking. Either way, customers can count on the tremendous quality HP brings to the table and its decades of data center experience.

- HP has introduced HP Altoline switches as a part of HP branded disaggregated brite box switches, or branded white box switches. The switches are dedicated to supporting the disaggregated data center networking model and providing a solid platform for customer choice of open networks with ONIE boot loader and Cumulus Linux network OS. The initial set of switches announced today are 40GbE switches that enable customers to deploy high performance spine and leaf data center networks. HP will continue to expand its disaggregated switch offering to include 1/10GbE leaf and 100G spine switches in the near future.

Figure 1. HP Networking solution for Web-scale data centers

HP Altoline is the industry's first trusted Web-scale open-networking switch solution

New go-to-market model for Web-scale customers	Linux network OS for open data center architectures	HP branded switches with hyperscale economics
HP-Accton joint venture	**HP-Cumulus partnership**	**HP Altoline switches**

Disrupting Web-scale data centers networking with HP choice, scale and value

Q: Will the new switches be HP branded?

A: Yes, the new switches, as the term brite box (branded white box) indicates, will be HP branded under the new HP Altoline product family. This allows customers to buy with confidence trusting in the HP brand value, the high quality and global support that they expect from HP.

Q: Who will provide customers with warranty and hardware support on the new HP Altoline switches?

A: HP will offer customers the support that they came to expect from the company. HP will offer customers 3 years of 10 business days advance replacement of defective parts. HP will manage the supply-chain logistics so that the customers only deal with HP as one contact. HP Technology Services will offer customers options for different levels of service that better suits their needs, such as four hours, or next business day replacements. The flexibility of ordering, delivery, and replacement is backed by the high-quality HP support provided on all HP Networking equipment.

Q: Who will provide customers with repairs, spares, and replacement parts support on the new HP Altoline switches?

A: HP will offer customers support for repairs, spares, and replacement parts and flexibility in ordering and delivery, which is backed by high-quality support provided on all HP Networking equipment.

Q: Who will provide customers with software support on the new HP Altoline switches?

A: When buying the new HP Altoline switches, customers can purchase Cumulus Linux software subscription.
HP Technology Services will provide customer support for HP Altoline switches with Cumulus Linux. In other words, customers can rely on HP as one-stop shop for all their support requirements in the time of need.

Q: Will the new switches be supported by HP Technology Services?

A: Yes, the new HP Altoline switches will be supported by HP Technology Services. Many prefer the added comfort of having HP support and the expertise of HP Technology Services as part of ensuring that their Web-scale data centers are available to support their business applications.

HP-Accton Technology joint venture

Q: Is this an exclusive arrangement between HP and Accton?

A: The joint venture between HP and Accton Technology builds on the long-term business relationship shared between the two companies. Customers will benefit from the expertise of both companies to design, produce, and deliver HP open networking switches in a timely manner.

Q: Why did HP choose to partner with Accton Technology?

A: This announcement strengthens the long standing HP-Accton partnership. It provides customers the right go-to-market and purchase business model of their preference, along with the HP worldwide local sales, support, and services. Accton's engineering excellence and ability to deliver superior value throughout the entire supply chain, together with HP Networking's industry-strong position and recognized service and support, will deliver a new world-class disaggregated networking platform. This will bring high density, easy to deploy and manage, cost competitive solutions to the Web-scale data center market.

Q: Why did Accton Technology choose to partner with HP?

A: This is a joint venture between HP and Accton Technology that builds on the long-standing business relationship of the two companies. The new go-to-market joint venture will benefit from the expertise of both companies to reduce supply chain risks. The HP worldwide local sales, support, and services complements the companies' abilities to design, produce, and deliver disaggregated networking switches to customers worldwide in a timely fashion.

Q: Will customers buy the new switches from HP?

A: Yes. Customers will buy the new HP Altoline open networking switches from HP.

HP-Cumulus Networks partnership

Q: Is this an exclusive arrangement between HP and Cumulus Networks?

A: This is a non-exclusive agreement that gives HP Technology Services the ability to add Cumulus Networks Linux network OS to HP Altoline disaggregated switches. HP has many business partners and will continue to work with new partners where joint efforts deliver the most benefits to our customers.

Q: Why did HP choose to partner with Cumulus Networks?

A: HP is committed to providing a choice of network operating systems that best fit customers' business requirements as they develop Web-scale data centers. Within the open source community, the company is the leading contributor to the OpenStack effort. Cumulus Networks shares this commitment to giving customers more choice. With Cumulus Linux as part of the new Web-scale data center disaggregated networking solutions, customers can now leverage both open source and commercial Linux tools for data center automation, monitoring, and orchestration as they build scalable, affordable, more easily managed Web-scale data centers.

Q: Why did Cumulus Networks choose to partner with HP?

A: HP is a trusted global provider of enterprise data center solutions. Within HP Altoline new disaggregated switches, Cumulus Networks Linux OS enables high-capacity disaggregated networks that are easy to deploy and affordable. Together, the companies help organizations modernize their data center networks for affordable capacity and ease of configuration, management, and orchestration.

Q: Will the network operating system on the HP Altoline switches be HP branded?

A: The network OS available with the HP Altoline open networking switches will be Cumulus Networks branded.

Q: Will the Cumulus Linux operating system be available on all of HP Networking switches?

A: Cumulus Linux networking OS will be available on the HP Altoline switches that are part of this announcement and are aimed at disaggregated networking for Web-scale data centers.

Q: Will customers be able to buy the HP Altoline switches without the Cumulus Linux network operating system?

A: The concept of disaggregation means that customers will be able to buy the hardware and software components separately. As Cumulus Linux is the network OS available with the HP Altoline box switches upon release, it is natural to expect that customers will buy the hardware and software elements together.

General

Q: What does network disaggregation mean?

A: Network disaggregation refers to separating the currently integrated hardware and software components of network switches, giving customers a choice of networking switch hardware and network operating system that best fits their needs. Customers have the option of separately choosing the open-networking switch and the operating system, similar to how they buy servers today, instead of buying an integrated, or tightly-coupled switch, which requires an operating system from the switch vendor.

Q: Is network disaggregation a variation of SDN?

A: No, Software-defined Networking (SDN) and network disaggregation are two different concepts that may coexist in the same networking environment. SDN is a networking architecture that aims to automate and simplify the entire network by making all the networking elements programmable. SDN achieves that by separating the control plane (software) of the networking elements from the forwarding plane (hardware). SDN architecture also introduces the concept of an SDN controller, a software application that controls the network via southbound APIs and programs the network via northbound APIs.

On the other hand, network disaggregation is a concept that targets individual networking elements, such as switches, by separating the integrated switch hardware component (HP Altoline switch) from its software component (network operating system). SDN may be deployed in disaggregated networking environments. HP Altoline switches when loaded with operating systems that support OpenFlow, may be used as part of SDN solutions, including the HP Helion OpenStack cloud solution.

Q: Why is HP supporting this approach for networking?

A: HP is expanding its networking offerings to meet emerging customer needs. As the special needs of Web-scale service providers grew, HP picked partners that would support these needs in the best way possible. Today's announcement expands the HP commitment to meet the needs of the networking requirements of Web-scale cloud data center users through unique business arrangements that deliver the best value of networking solutions to customers. This JV with Accton will enable Web-scale companies can take advantage of the direct go-to-market and purchasing model approach that will meet their requirements in a better way.

By partnering with Cumulus Networks, HP has selected a partner that addresses the needs of Web-scale cloud data centers for Linux operating system, and use a wide range of configuration, management and orchestration tools. Open source Linux is already supported on HP servers and has a networking stack used by many customers. Cumulus Linux OS provides hardware acceleration, layer 2, and layer 3 support, and an open ecosystem of applications and tools that enhance the networking customer experience.
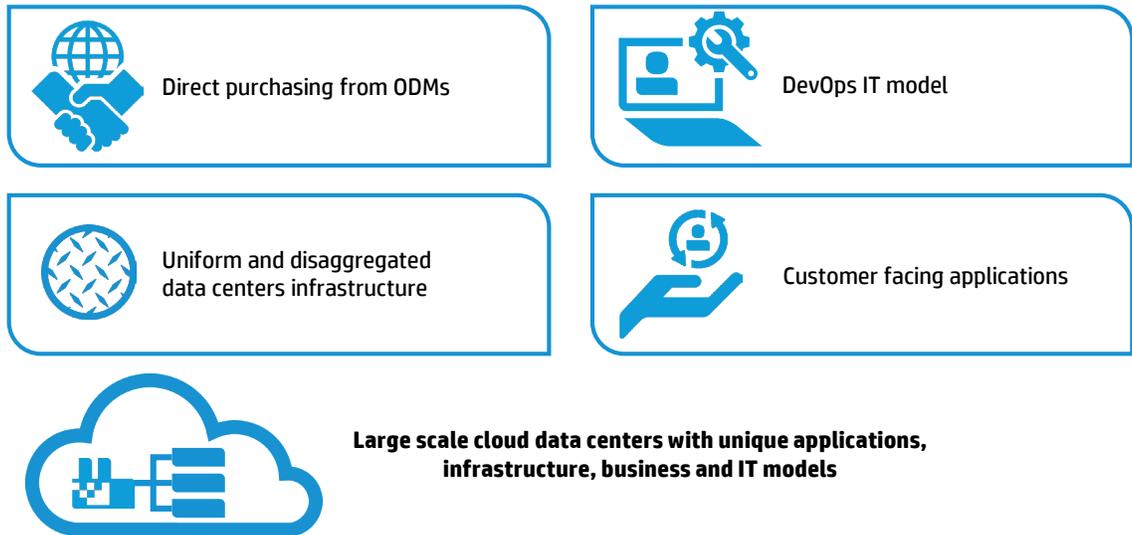
Q: Why are the new HP Altoline switches targeted for the special market segments?

A: The Web-scale data center segment is a growing customer segment with distinct needs for high scalability and diverse needs. More importantly, the Web scale SPs community tends to have deep engineering and technical IT resources at hand that allow customers to trade in the procurement convenience of the current the tightly-coupled networking model for the flexibility and the ability to custom configure disaggregated switches. Many Web-scale IT organizations use Linux operating system and require the ability to have consistent orchestration across both servers and the network. HP Altoline switches are aimed not just at the hyperscale market segment but also the growing base of customers who implement the same IT hyperscale models.

HP is offering the HP Altoline disaggregated switch to Web-scale cloud data center operators with a preference for direct purchasing, customer facing applications, and DevOps IT model. The range of customers can be viewed broadly as service providers, e-commerce, and Web 2.0 operators. In essence, the HP Altoline switch offering is best suited for organizations that have adopted, or moving to the New Style of IT; Web-scale IT. The new switches are part of "fit-to-function" solution aimed at hyperscale customers, service providers, and large organizations with customer facing applications and DevOps IT.

Figure 2. Web-scale IT and cloud data centers

New IT operating and business models

Direct purchasing from ODMs

DevOps IT model

Uniform and disaggregated data centers infrastructure

Customer facing applications

Large scale cloud data centers with unique applications, infrastructure, business and IT models

Q: How will this effort impact HP Networking brand?

A: Supporting the Web-scale cloud data centers with HP Altoline switches in ways that best satisfy customers' needs will broaden the reach and appeal of HP Networking brand, enhance the brand recognition, and increase respect for it. This is a positive step in the right direction for HP brand.

Q: Will this effort impact HP Networking profit margins?

A: HP is well positioned to handle technology transitions and has been in the forefront of leading the efforts to standardize servers and advance the adoption of SDN. The HP success in maintaining leadership in the standard servers' market points to the likely outcome in the disaggregated networking market. It is not possible to discuss future financial details at this moment.

Q: Will HP be expanding the product offering and the ecosystem for the new HP Altoline switch series?

A: The new HP Altoline switch offering is a strategic initiative aimed at meeting the needs of customers with Web-scale cloud data centers. The announcement today covers the release of the initial set of switches that enable customers to deploy 40G/10G spine/leaf networking configurations. Moving forward, HP will continue to expand the product offering in ways that best address customer requirements and market needs. Future enhancements would include the addition of 100G switches, choice of switch controller chips, and a wider range on network operating systems, including the HP Comware network OS tailored for the new HP Altoline switches.

Q: Will HP be adding new partners to support the HP Altoline switches?

A: As the new HP Altoline switch offering grows and the customer requirements grow more diverse, it is natural that HP will expand the ecosystem partners to include new operating system and tools partners. At the time of general availability, Cumulus Networks will be the only network operating system partner.

As noted earlier, HP also foresees the need for open networking switches with different controller chips to meet the special needs of customer applications. Look for an expanded HP Altoline ecosystem that addresses customer requirements.

Q: Will HP Comware operating system be available for the HP Altoline switches?

A: As part of meeting special customers' requirements, HP is planning to tailor our Comware 7 operating system for HP Altoline switches and make it available to customers to load on the new disaggregated switches in the future. Adding a tailored version of Comware 7 to the HP Altoline switch series expands customers' choices and enhances the value of the trusted HP solutions.

Q: What are the main benefits for customers of HP Altoline open networking switches?

A: The HP Altoline Switch Series offers a solution that addresses the customer needs for faster time to service, reliable partners that can navigate them through worldwide supply chain, and choice of disaggregated switch hardware and software with worldwide local support. The HP Altoline switches are aimed at meeting the customer requirements by delivering exceptional value in the following areas:

- Choice
  - Choose the networking solution that best suits your application environment with:
    - HP Networking Altoline switches hardware and support that is proven
    - Cumulus Linux operating system for open networking
    - Ecosystem of open source and commercial Linux tools that is robust
    - JV that enables direct sales and go-to-market model, worldwide local sales, support, and services
- Cloud Scale
  - Scale the cloud infrastructure to meet the needs of applications with:
    - Networks that get out of the way by serving as scalable transport
    - Capacity deployment when you need it
  - Speed of service delivery with:
    - Zero-touch provisioning of HP Altoline switches with ONIE boot loader and Cumulus Linux reduce deployment time from days to minutes
    - Accuracy of provisioning is increasingly important in larger deployments
- Value
  - Lower total cost of ownership (TCO) by more than 64 percent[1] with:
    - Reduced acquisition costs with hardware and software disaggregation
  - Decreased operating costs
    - Rapid infrastructure provisioning, IT automation, and workflow orchestration all contribute to OPEX savings
  - Affordable capacity at scale
    - Efficient scaling from initial deployments to Web-scale
  - Increased value of the network with greater innovation
    - Leverage development tools and ecosystem of open source and commercial Linux tools consistent with those used for the server infrastructure

Q: Will the HP Altoline switches offer features that are equivalent to HP Comware OS?

A: The new HP Altoline switches will give customers the choice of creating disaggregated networking environments that best suits their business requirements. As a result, customers will utilize open source and commercial Linux tools that may offer features that are comparable to some of the HP Comware capabilities. The idea of offering disaggregated solution is not to duplicate Comware capabilities as customers do have the choice of buying HP Networking switches with Comware operating system. With that in mind, HP will, in the future, expand the network operating system choices on the new HP Altoline switches to include a version of HP Comware tailored for the new switches.

Q: Which switch models are part of the new HP Altoline family of switches?

A: The HP Altoline family of switches will initially be made of two switch models. The first is HP Altoline 6700 switch series enabling 40/10GbE spine/leaf configurations. The second switch in the Altoline family will soon arrive with 1/10GbE capabilities.

HP will quickly be expanding the new Altoline family of switches to cover 100G models and switches that support 1/10GBASE-T connectivity.

Q: Will the new HP Altoline switches be managed by HP IMC?

A: The HP Altoline switches with Cumulus Linux operating system will not use HP IMC, but will utilize management tools that are part of the Linux ecosystem such as Chef and Puppet.

Q: What management tools will be available for the new HP Altoline switches?

A: HP Altoline customers will be able to choose from a wide range of rich development, diagnostics, and management, and orchestration tools available for Linux as part of the open source and commercial Linux environments.

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[1] Credit Suisse Securities Research and Analytics. 18, September 2013. Cisco Systems Inc.

Q: Will the new HP Altoline switches be available worldwide?

A: Yes, the new HP Altoline switches will be available to Web-scale data center customers worldwide.

Q: What is the pricing structure for the new HP Altoline switch solution?

A: Pricing for the HP Altoline switches will be available at the time of shipping. Please consult your sales consultant for pricing.

The competition

Q: How is the HP Altoline switch offering different from other vendors' announcements in this area?

A: The HP Altoline offering is aimed at meeting the special requirements of the Web-scale data centers customers. A close look at how Web-scale IT companies are run, shows that they have adopted direct purchasing practices, and opted for a choice of open-networking switch hardware and Linux network operating systems. Web-scale data centers are run by IT teams with a DevOps model and deep bench of technical and engineering resources and require global support wherever they operate.

The HP Altoline solution uniquely addresses the needs of Web-scale companies. Users gain from having dedicated sales teams, a joint venture go-to-market model, choice of brite box hardware and Linux network operating system, and branded switches, along with worldwide local support and the legacy of HP Technology Services. The HP Altoline solution meets the needs of customers with a unique joint venture go-to-market route and global sales and support expertise that streamline operations and reduce supply chain risks.

Customers can see the difference with HP Altoline switches as other vendors fail to provide the right go-to-market and purchasing models, and appear aimlessly targeted at "do it yourself" IT groups rather than the right customer segments. Competing offerings amount to little more than getting customers to buy hardware, chose an operating system, and leave you to your own devices. This approach does not help IT organizations with valuable customer segments.

Figure 3. HP Altoline cloud service providers solution and the competition

The only true solution for Web-scale IT needs

DC disaggregation solution	HP	DELL	JUNIPER NETWORKS
ODM joint venture GTM model	Yes	No	No
DC bare metal server and switching offering	Yes	No-only switch	No-only switch
Spine and leaf bare metal switch offering	Yes	No-only leaf	No-only leaf
Growing family of bare metal switches	Yes	No-1/2 switches	No-one switch
Roadmap to 100G and expanded offering	Yes	No	No
Linux operating system	Yes	Yes	No. Only Junos
Worldwide local sales and support	Yes	Some	Some
Global enterprise technology services	Yes	Some-SMB focus	Some-Limited SP focus

Q: How does the new HP Altoline switch offering compare to announcements from other vendors?

A: The HP Altoline switch offering is a trusted solution that is HP branded and backed by the HP leading global support and services:

- HP is the world leader in contributing to the open source OpenStack community reflecting the HP unwavering commitment to open source and open standards
- HP has the experience of building successful open-standards solution and is the leading provider of data center open infrastructure covering servers, storage, and networking
- HP is the second largest networking switching vendor with market share that is larger than the next five competitors
- HP has the experience and the business relationships with Web-scale data center customers, understands their business needs and knows how to provide the appropriate products, support, and services

- Linux is a known quantity to Web-scale data center users. Along with HP switches, users will have a familiar experience when using Cumulus Linux

- Cumulus Linux is gaining momentum in Web-scale data centers and its adoption will accelerate with HP resources and expertise behind it

- HP understands the special needs of Web-scale IT customers and has assembled the resources necessary to deliver the new switches, support them and manage the special needs of the cloud data center segment across the entire spectrum of business and technology processes.

Learn more at
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