Cisco UCS reference architecture for Epic

FlexPod

NetApp
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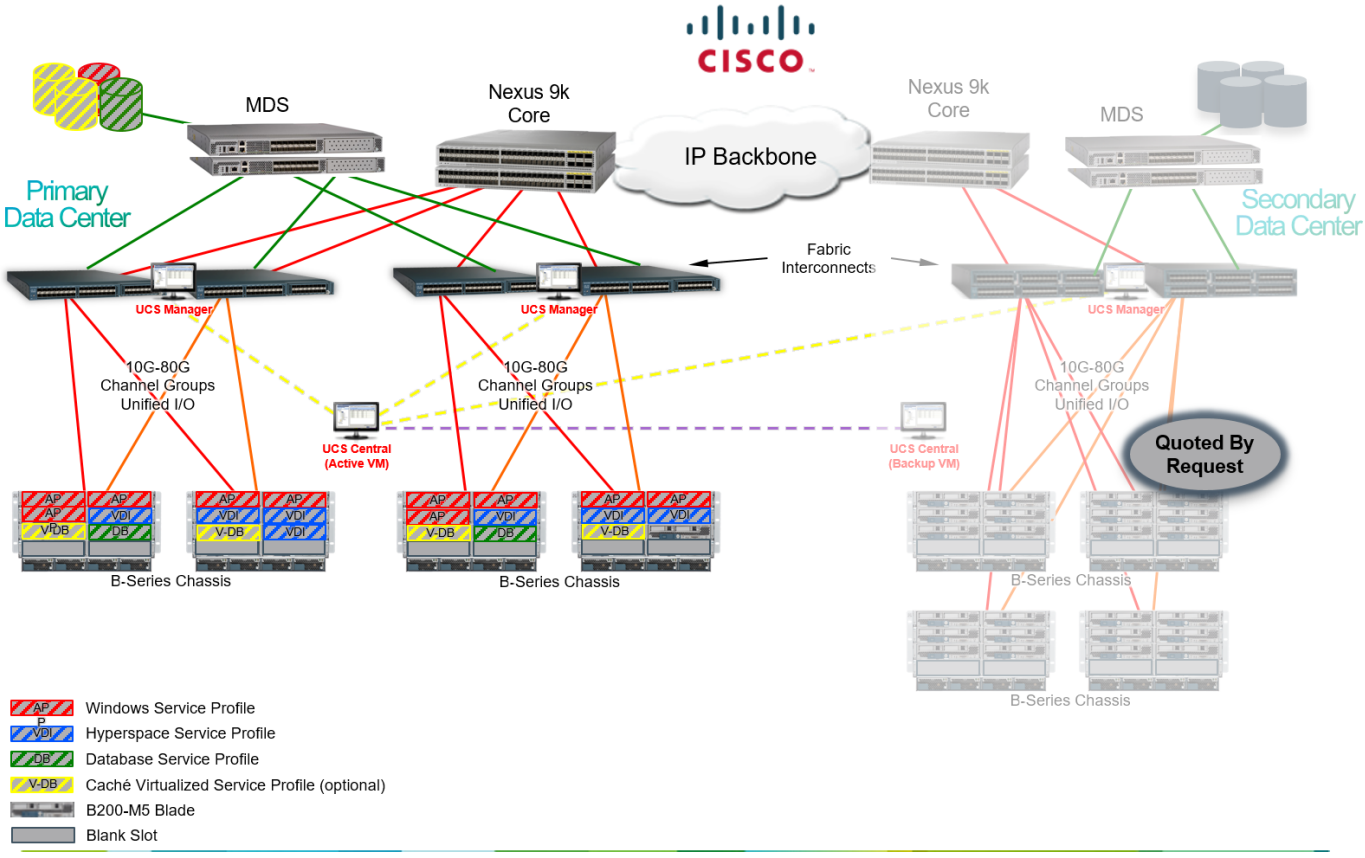
The architecture for Epic on FlexPod is based both on guidance from Epic, Cisco, and NetApp, and from partner experience in working with Epic customers of all sizes. The architecture is adaptable and applies best practices for Epic, depending on the customer's data center strategy—whether small or large, and whether centralized, distributed, or multitenant.

When it comes to deploying Epic, Cisco has designed Cisco UCS reference architectures that align directly with Epic's best practices. Cisco UCS delivers a tightly integrated solution for high performance, high availability, reliability, and scalability to support physician practices and hospital systems with several thousand beds.

Basic design for smaller implementations

A basic design for Epic on Cisco UCS is less extensive than an expanded design. An example of a basic design use case might be a physician's practice with outpatient clinics. Such an organization might have few users of the Epic applications, or it might not need all components of Epic. For example, a physician's practice group might not require the Epic Willow Pharmacy application or Epic Monitor for in-patient monitoring. A basic design requires fewer virtual hosts and fewer physical servers. It is also likely to have fewer SAN requirements, and the WAN connections to the secondary data center might be handled with basic routing and TCP/IP.

The following figure illustrates an example of a basic small Epic configuration.

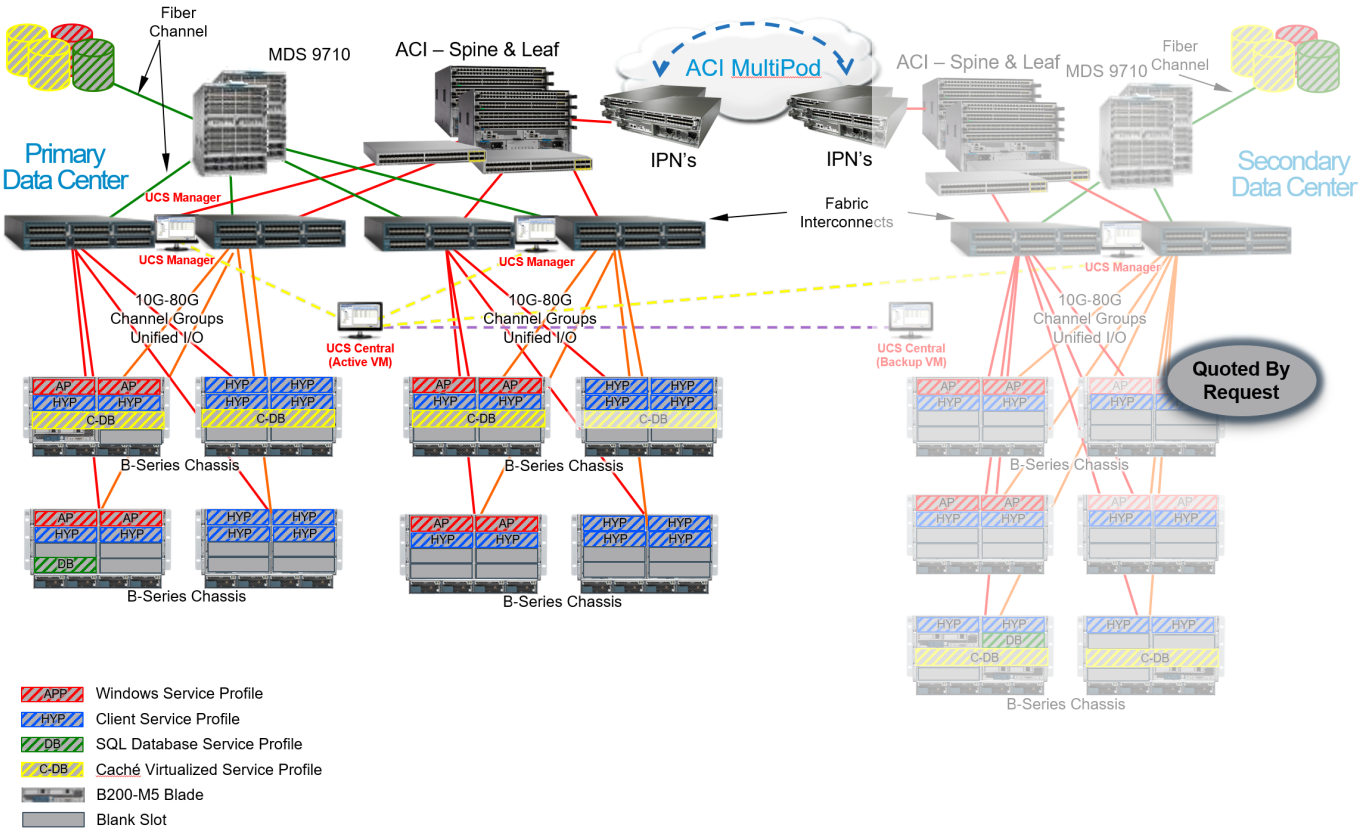


Expanded design for larger implementations

An expanded design for Epic on Cisco UCS follows the same best practices as a basic design. The primary

difference is in the scale of the expanded design. With larger scale there is usually a need for higher performance in the core switching, SAN, and processor requirements for Caché databases. Larger implementations typically have more Hyperspace users and need more XenApp for Hyperspace or other virtual application servers. Also, with requirements for more processing power, Cisco UCS quad-socket servers with Intel Skylake processors are used for the Chronicles Caché database and the related Production, Reporting, and Disaster Recovery Caché servers.

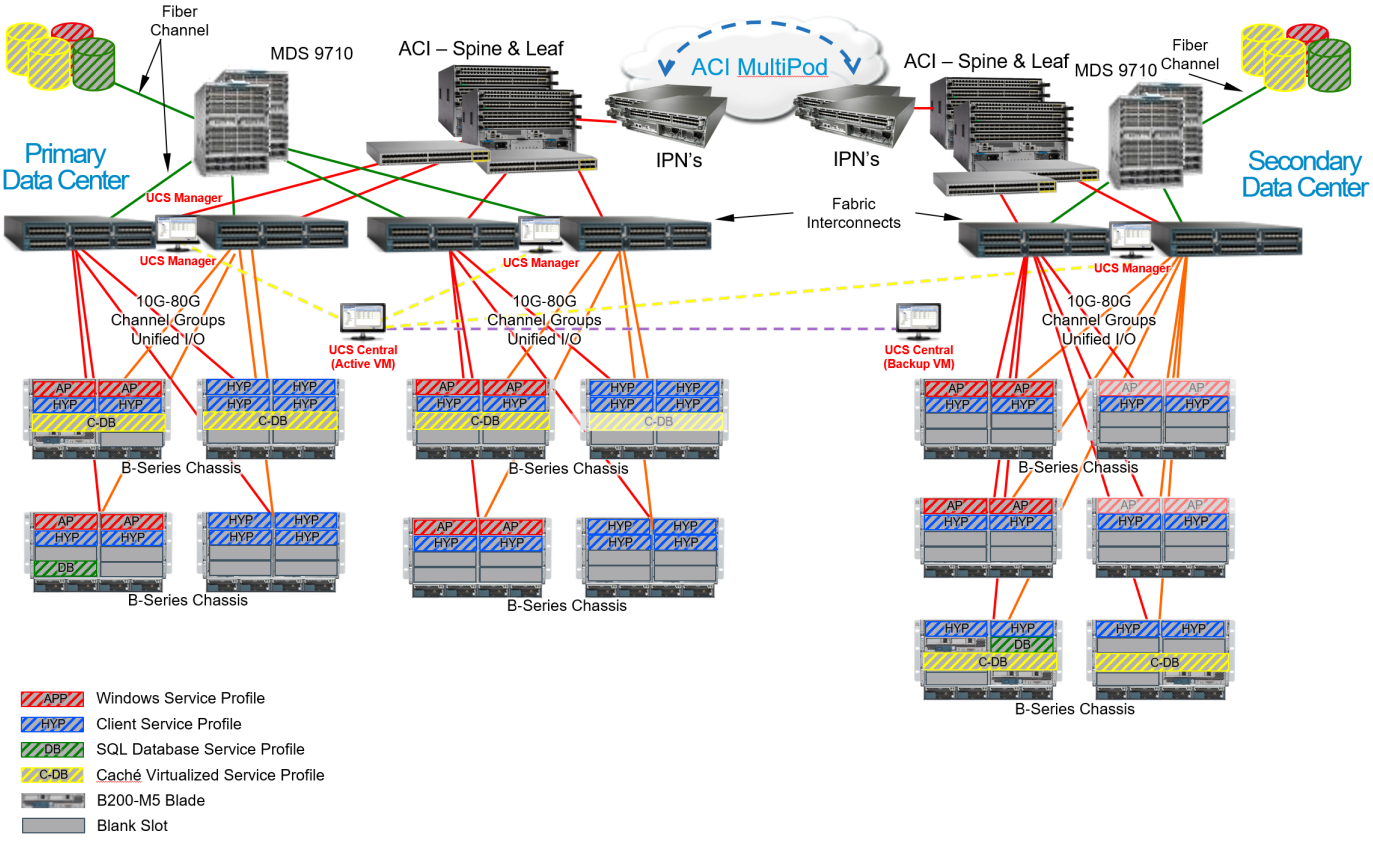
The following figure illustrates an example of an expanded Epic design.



Hyperspace active–active implementations

In the secondary data center, to avoid unused hardware resources and software costs, customers might use an active-active design for Epic Hyperspace. This design enables optimizing computing investment by delivering Hyperspace from both the primary data center and the secondary data center.

The Hyperspace active–active design, an example of which is shown in the following figure, takes the expanded design one step further and puts XenApp for Hyperspace or other Hyperspace virtual application servers into full operation in the secondary data center.


Fiber Channel
MDS 9710
ACI – Spine & Leaf
ACI MultiPod
ACI – Spine & Leaf
MDS 9710
Fiber Channel
Primary Data Center
IPN's
IPN's
Secondary Data Center
UCS Manager
Fabric Interconnects
UCS Manager
UCS Manager
UCS Manager
10G-80G Channel Groups Unified I/O
10G-80G Channel Groups Unified I/O
10G-80G Channel Groups Unified I/O
UCS Central (Active VM)
UCS Central (Backup VM)
AP
HYP
C-DB
DB
B-Series Chassis
B-Series Chassis
B-Series Chassis
B-Series Chassis
B-Series Chassis
APP Windows Service Profile
HYP Client Service Profile
DB SQL Database Service Profile
C-DB Caché Virtualized Service Profile
B200-M5 Blade
Blank Slot