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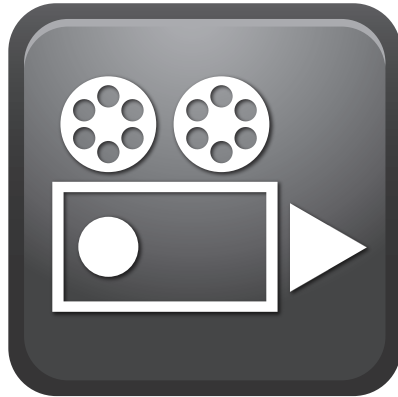
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CHAPTER 5   **IT INFRASTRUCTURE AND EMERGING TECHNOLOGIES**

CASE 2   **ESPN.com: The Future of Sports Coverage in the Cloud**

SUMMARY   ESPN is the world's largest cable television sports programming network. In addition, it is the Web's most popular online source for sports results, content, and commentary. Servicing an online audience of more than 118 million unique visitors every month requires ESPN to adopt processing technologies that are extremely efficient, powerful, and flexible.

(a) ESPN.com discusses IBM WebSphere eXtreme Scale at Impact

URL   http://www.youtube.com/watch?v=NIqru81sjV4; L=5:40

(b) ESPN and the future of sports coverage

URL   https://www.youtube.com/watch?v=zv7q1Wx_QHw; L=7:18

CASE   ESPN is a global cable television network and media company with headquarters in Bristol, Connecticut. Founded in 1979, ESPN grew along with the cable television industry to become a mainstay of American popular culture. After a series of investments by Hearst Publications and ABC (the American Broadcasting Network), 80% of ESPN finally ended up in the hands of entertainment giant The Walt Disney Company, and 20% with the Hearst Corporation, a 100-year-old media company based largely on newspaper and magazine businesses. ESPN focuses on sports programming including live and pre-taped event telecasts, sports talk shows, and other original programming. While originally a cable television network, ESPN has since expanded aggressively to the Internet as well as radio and print magazines.

ESPN is actually a family of sports networks and individual shows. There are eight 24-hour domestic television sports networks: ESPN, ESPN2, ESPNEWS, ESPN

continued

Classic, ESPN Deportes (a Spanish language network), ESPNU (a network devoted to college sports), and the regionally focused Longhorn Network (a network dedicated to The University of Texas athletics) and SEC Network (focused on Southeastern Athletic Conference sports). ESPN also operates five high-definition television simulcast services: ESPN HD, ESPN2 HD, ESPNEWS HD, ESPNU HD, and ESPN Deportes HD. ESPN programs the sports schedule on the ABC Television Network, which is branded ESPN on ABC. ESPN International has ownership interests in 24 television networks that reach households in 61 countries and territories across seven conti-nents. In addition to its media outlets, ESPN is well-known for its ownership of the rights to various professional and college sports programming.

On the Internet, ESPN owns ESPN.com, which delivers comprehensive sports program-ming, news, information, and video. ESPN3 is a broadband service that delivers thou-sands of live events. Other sites include WatchESPN, ESPNRadio, ESPNDeportes, ESPNFC, ESPNCricinfo, ESPNScrum, ESPNFL, and a variety of market-specific sites. ESPN also owns the statistically-focused political and sports site FiveThirtyEight.

In 2018, ESPN digital properties averaged over 100 million U.S. users per month who watched 8 billion minutes of content. In terms of reach, ESPN lead the Sports cate-gory, generating over 15% of all Sports category usage for the year and 55 percent more than its closest competitor. ESPN is also the industry leader in terms of unique visitors to, and minutes watched on, its mobile Web site and mobile apps, boasting the top two sports apps in its flagship ESPN app and WatchESPN digital streaming app.

With over 100 million unique global online visitors, ESPN receives an avalanche of requests for information services every second of every day. ESPN needs to keep track of each visitor's personal interests and profile in order to provide those services. To cope with this highly interactive environment, ESPN adopted an IBM technology called WebSphere® eXtreme Scale. eXtreme Scale is a set of software and hardware tools that rely on distrib-uted cache memory as opposed to hard disk drives to access data. Combining the process-ing power of 20 or more server computers into a single environment called a "grid," or a private cloud environment, makes it possible for ESPN to process very large volumes of transactions (requests for service) in single millisecond time frames. In addition, the system is highly flexible and can be scaled up or down depending on the demand for services.

ESPN has also had to change core programming elements such as SportsCenter to fit the new digitally-dominated landscape. ESPN's new SportsCenter set has 114 monitors compared to the older one's 15, nearly 10,000 square feet of space, 1,100 miles of fiber optic cable, and the ability to accommodate emerging technologies that may arise. The trouble for ESPN is that even the most cutting-edge TV studio may not be enough to draw viewers, and the most comprehensive network of national and regional sports networks may no longer be ESPN's greatest strength. More users are accessing ESPN content via mobile devices at the expense of TV, and services that

allow users to avoid traditional cable packages that contain ESPN are proliferating. Typical sports fans are now interested in fantasy football and getting their sports news the instant it happens, not hours later.

Still, ESPN has committed itself to embracing change, and maintains a dominant presence on mobile. Its media personalities are all extremely active on Twitter. If users should become interested in 3D technology, virtual reality, or something totally unforeseen, ESPN hopes that it's taken the necessary steps to be at the cutting edge for years to come.

VIDEO CASE QUESTIONS

1. How many requests from users does ESPN receive each second? Do you think this is a consistent pattern or does it have peaks and valleys? When does it peak?

2. Why does ESPN store personal information and preferences on its databases and how does this personal information complicate the ability of ESPN to respond to requests from users? Why can't ESPN just use Web page caching to handle the loads?

3. How much information on users does ESPN store? Why does this pose a challenge for ESPN? Can't it just use a standard 1 terabyte hard drive from a PC? Why can't it use a single PC?

4. Why is scalability so important to ESPN?

5. How has ESPN handled the rise of Twitter? How has it incorporated Twitter into SportsCenter?

6. What has ESPN, originally a cable-only service, done to adjust to the rise in users canceling their cable subscriptions in favor of unbundling services?