Lesson 02
Pushed Based Data Delivery Mechanism
Classification of Data-Delivery Mechanisms

- Push-based mechanisms (publish–subscribe mode)
- Pull-based mechanisms (on-demand mode)
- Hybrid mechanisms (hybrid mode)
Push-based Mechanisms

- Server pushes data records from a set of distributed computing systems.
- Examples of distributed computing systems—advertisers or generators of traffic congestion, weather reports, stock quotes, and news reports.
A server or computing system pushing the data records from a set of distributed systems
Publish–subscribe mode

- In which the data pushed as per the subscription for a push service by a user
Pushing Algorithm

1. Select a structure of data records to be pushed
   • An algorithm provides an adaptable multi-level mechanism that permits data items to be pushed uniformly or non-uniformly after structuring them according to their relative importance
2. Data pushed at selected time intervals using an adaptive algorithm
   - Pushing only once saves bandwidth
   - However, pushing at periodic intervals important because it provides the devices that were disconnected at the time of previous push with a chance to cache the data when it is pushed again
3. Bandwidths adapted for downlink (for pushes) using an algorithm
Periods of Pushing and Stopping pushes

4. The same fixed periods can be used for pushing all records but usually higher bandwidth is allocated to records having higher number of subscribers or to those with higher access probabilities.

5. A mechanism also adopted to stop pushes when a device is handed over to another cell.
Advantage of push-based mechanisms

- Enable broadcast of data services to multiple devices
- Server is not interrupted frequently by requests from the mobile devices
- Best option for the server as they prevent server overload, which may occur due toflooding of device requests
Disadvantage of push-based mechanisms

- Dissemination of unsolicited, irrelevant, or out-of-context data
- User may not be interested in the disseminated data and may be inconvenienced
Summary

- Server pushes data records from a set of distributed computing systems at intervals
- Server not interrupted frequently by requests from the mobile devices
- Dissemination of unsolicited, irrelevant, or out-of-context data
End of Lesson 02
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