

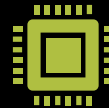
The background features a series of concentric circles in light gray, some solid and some dashed, creating a ripple effect. A large, solid red oval is positioned in the center-right of the frame. A dark gray, curved shape, resembling a thick comma or a stylized 'C', is located to the left of the red oval, partially overlapping it.

Mainframes

Introduction to Mainframes



Definition of Mainframes: High-performance computing systems designed for large-scale data processing and critical business applications.



Wide-spread Use: Mainframes run about **70% of the world's transactions**.



Significance in Enterprise Computing: Mainframes serve as the backbone for mission-critical tasks, handling vast amounts of data and transactions.



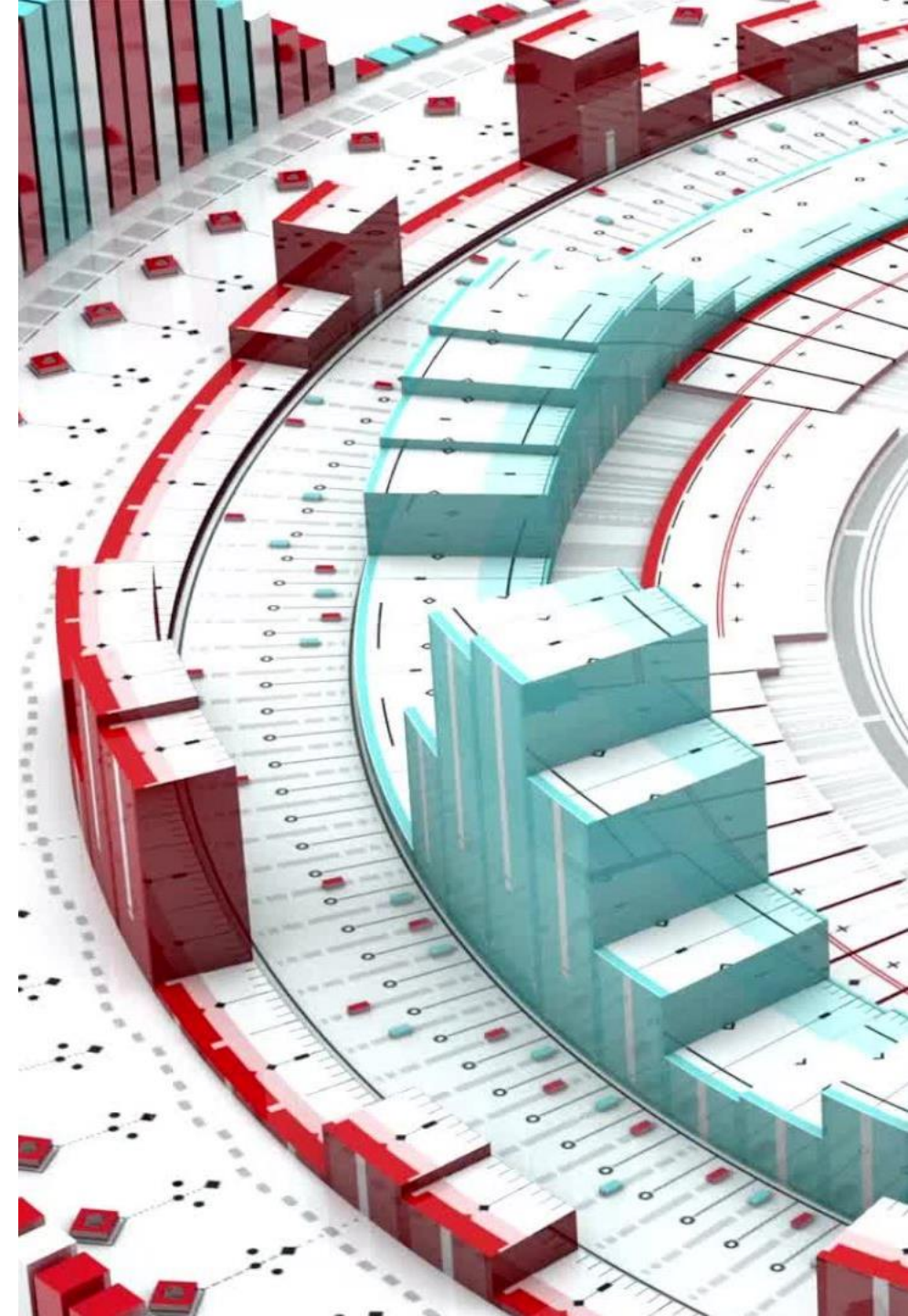
Trusted by Finance: **77 of the top 100 banks** use mainframe architecture.

History of Mainframes

Early Mainframes: Introduction in the 1950s with systems like IBM 700 series.

Evolution: Advancements in the 1960s with the introduction of IBM System/360.

Continued Innovation: Modern mainframes such as IBM z16 are capable of processing up to 25 billion encrypted transactions per day.



Characteristics of Mainframes



Processing Power: Exceptional computing power to handle massive workloads.



Reliability: High level of reliability with features like redundancy and fault tolerance.



Scalability: Ability to scale up to meet growing demands.



Security: Robust security features to protect sensitive data.



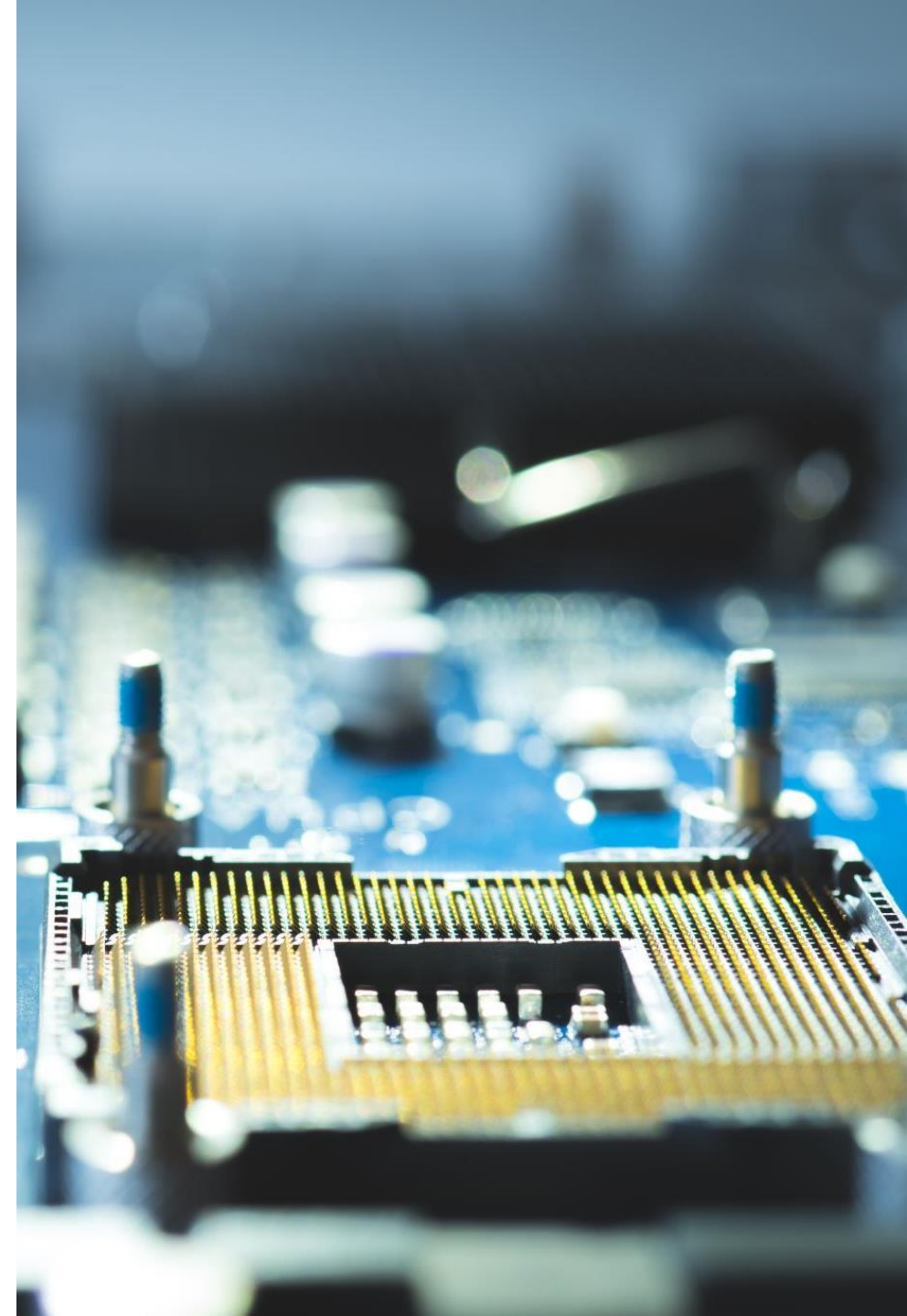
Virtualization: Efficient use of resources through virtualization.

Mainframe Architecture

Centralized Architecture: Central processing unit (CPU) manages all processing tasks.

Input/Output Subsystem: Efficient handling of data input and output.

Storage Hierarchy: Tiered storage systems for fast and efficient data access.



Key Mainframe Technologies

Parallel Processing: Simultaneous execution of multiple tasks for increased efficiency.

Batch Processing: Processing multiple transactions as a group for streamlined operations.

CICS (Customer Information Control System): Transaction processing system for online applications.

Db2: Database management system for mainframes.

Applications and Use Cases

Financial Services:
Handling complex
financial
transactions and
calculations.

Healthcare:
Managing vast
databases of patient
records.

Airlines:
Reservation
systems and
managing flight
data.

Government:
Processing large-
scale government
operations and
data.

Security in Mainframes

Access Controls: Strict controls to regulate user access.

Encryption: Protecting data through encryption algorithms.

Audit Trails: Detailed logs for monitoring and auditing activities.

Secure Communication: Ensuring secure data transfer within and outside the mainframe environment.

