



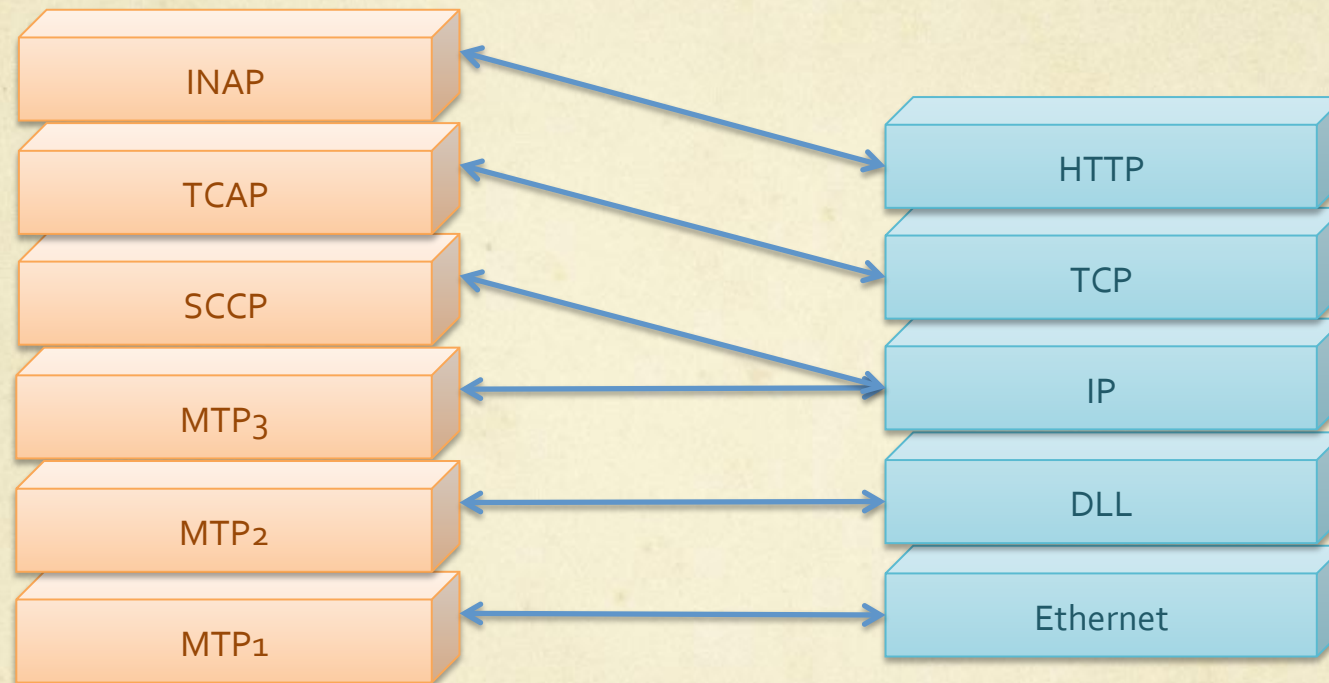
SIGTRAN - An Introduction

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SS7 & SIGTRAN

- SS7
 - Stands for Signaling System No. 7
 - A set of telephony signaling protocols which are used to set up public switched telephone network calls throughout the world
- SIGTRAN
 - Stands for Signaling Transport
 - An IETF task force that defined the specifications for a protocol family to provide reliable datagram service and user layer adaptation (UA) for Signaling System 7 (SS7) & ISDN protocols over IP

Comparison of SS7 & IP Stack



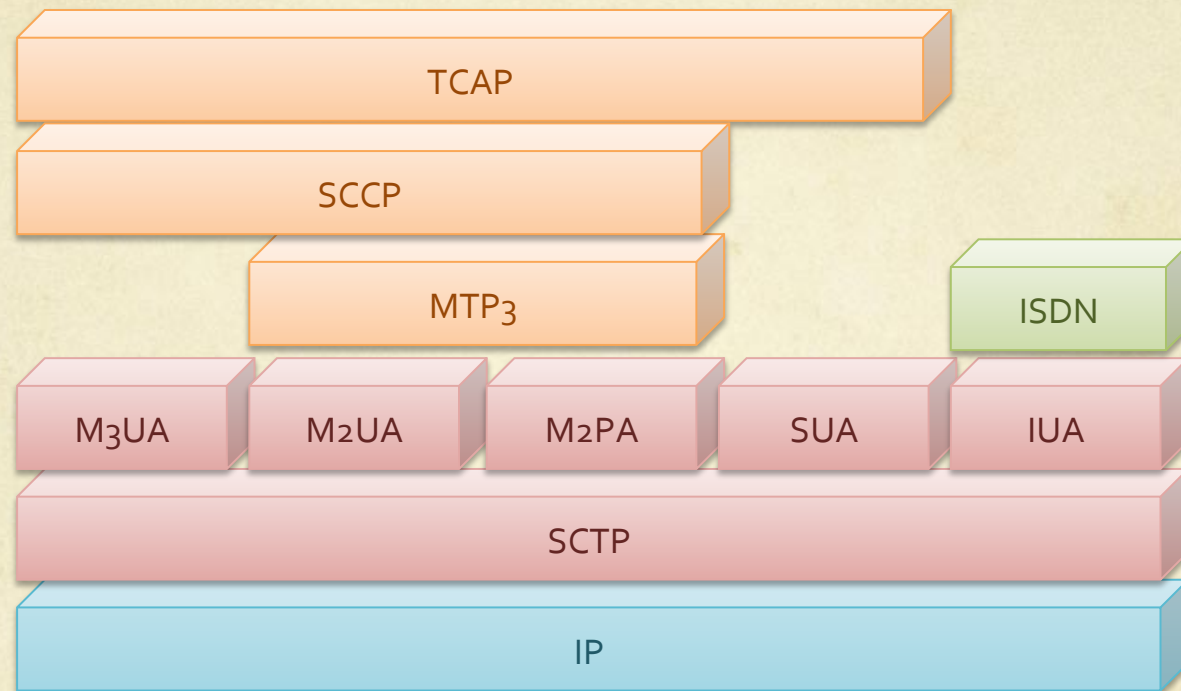
MTP: Message Transfer Part

SCCP: Signalling Connection Control Part

TCAP: Transaction Capabilities Application Part

INAP: Intelligent Network Application Part

SIGTRAN Protocol Stack



M₃UA: MTP3 User Adaptation Layer

M₂PA: MTP2 User Peer-to-Peer Adaptation Layer

SUA: SCCP User Adaptation Layer

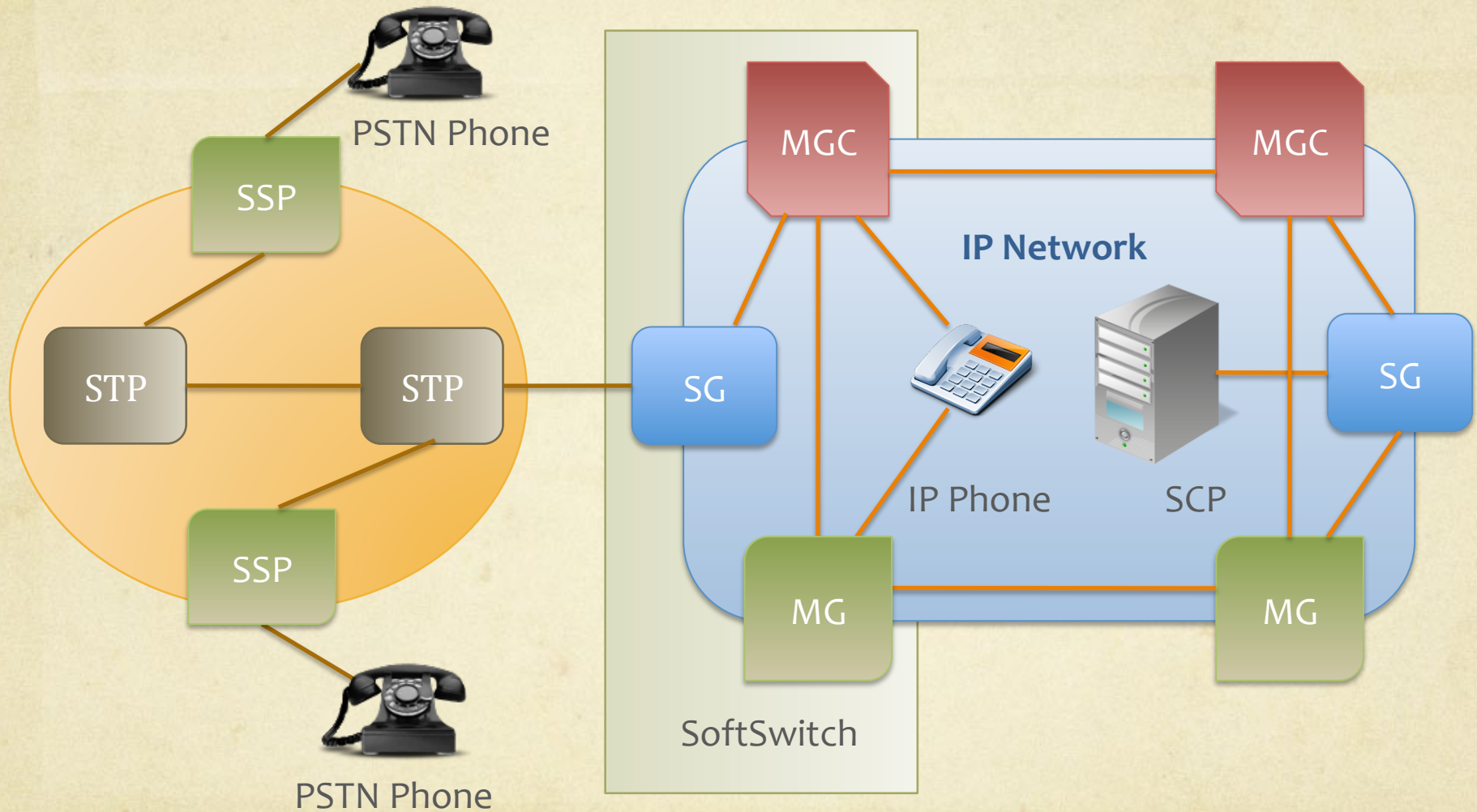
IUA: ISDN User Adaptation Layer

SCTP: Stream Control Transmission Protocol

SCTP

- A new transport protocol with time sensitive signaling in mind
- Flexible enough for general use
- SCTP can use multi-homed endpoints for redundancy as opposed to TCP strictly connecting 2 endpoints
- TCP is byte streamed, application is responsible for structuring data. SCTP is message oriented, defining structured frames of data at transport layer
- Provides multi-streaming capability: data is split into multiple streams, each independently sequenced

SS7/ SIGTRAN Network Architecture



SG: Signaling Gateway

MG: Media Gateway

MGC: Media Gateway Controller

SCP: Service Control Point

STP: Service Transfer Point

SSP: Service Switching Point

Future of SIGTRAN

- Traffic increased by Local Number Portability & SMS has pushed SS7 networks beyond capacity
- SIGTRAN allows PSTN network to offload traffic to IP networks
- PSTN infrastructure is many times larger and far reaching than IP networks
- SIGTRAN will last as long as PSTN networks last
- Questions? Comments?