

# **WAP Forum - Vancouver Event**

## **Welcome and Introduction**

**Sanjay Jhawar**

**WAP Management Board**

**Motorola**

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Application  
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# Objectives of WAP Forum

- Bring Internet content **and** advanced services to digital cellular phones and other wireless terminals
- Create a **global** wireless protocol specification to work across **differing wireless network technologies**
- Submit specifications for adoption by appropriate industry and standards bodies
- Enable applications to **scale** across a variety of transport options and device types

# WAP Forum history

- 26 Jun 1997 WAP effort launched by founders
- 15 Sep 1997 WAP architecture published, website up
- 30 Dec 1997 WAP Forum Limited legally registered
- 30 Jan 1998 Draft spec available for members to review
- 12 Feb 1998 Draft WAP specifications publicly available
- 13 Feb 1998 1st members' review & briefing - London
- 13 Mar 1998 2nd members review & briefing - Miami
- 30 April 1998 v1.0 of WAP specs published**

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- 3 June 1998 New working groups for future evolution  
- Vancouver
- July 1998 Expanded board with 8 new directors

# Members of WAP Forum

- Alcatel
- Ericsson
- Matsushita
- Motorola
- Nokia
- Nortel
- Philips (PCC)
- Qualcomm
- Samsung
- Uniden
- DeLaRue Card Systems
- Gemplus
- Schlumberger
- AT&T Wireless
- BellSouth Cellular
- Dolphin Telecom
- DDI
- Hong Kong Telecom
- SBC TRI
- SFR
- Sonera (Telecom Finland)
- Telia
- Telstra
- Telecom Italia Mobile
- T-Mobil (D1)
- Telenor
- Vodafone
- Apion
- Certicom
- Fujitsu Software
- Geoworks
- IBM
- MD-Co
- Psion Software
- Sema Group
- Sendit
- Spyglass
- Scandinavian Softline
- Starfish
- Unwired Planet
- VTT Info Tech

# Structure of this event

- **General session : 2 June : 1300-1700**
  - > **Introduction**
  - > **Specifications Status and Plans**
    - Summary of WAP v1.0 and future work items
  - > **Organization and Process**
    - WAP Forum work processes
    - New working group structures
    - Introducing the chairpersons
  - > **Compliance and Interoperability**
    - WAP v1.0 compliance definition
    - Approaches to interoperability and current status
  - > **Audience input on future work items & process**
  - > **Election process for Board of Directors**
  - > **Future meetings plan**
  - > **Open discussion**

# Structure of this event

- **General plenary** (members only)  
**3 June : 0830- 1000**
  - > **Working processes - more detail + Q&A**
  - > **IPR status and process**
    - copyright
    - obligations on Essential IPR
  - > **New working groups**
    - structure & chairpersons
    - objectives for Vancouver

# Structure of this event

- **Specification Working Groups** (members only)  
in parallel tracks  
3 June : 1000 - 1700  
4 & 5 June : 0900 - 1700
  - > **Protocols**
  - > **Security**
  - > **Applications**
- **Input papers** (members only)  
4 June evening : 1900 - 2100

# Structure of this event

- **Workshops**

- > **Interoperability / Testing**

- 4 June : 0900 -1200 : Burrard Room

- > **Smart Card / SIM**

- 4 June : 1300 - 1700 : Burrard Room

- > **Telematics**

- 5 June : 0900 - 1200 : Beluga Room

# ***WAP Status Overview***

**Hans H H Hansen**

***Chairman WAP Architecture Group***

***WAP R&D Nokia***

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# WAP v1.0

- **WAP 1.0 Specifications**
  - > April 30th: **Published at [www.wapforum.org](http://www.wapforum.org)**
- **Wireless Application Environment**
  - > **WML Microbrowser**
  - > **WMLScript Virtual Machine**
  - > **WMLScript Standard Library**
  - > **Wireless Telephony Application Interface**
  - > **WAP Content Types**
- **Wireless Protocols**
  - > **Wireless Session Protocol (WSP)**
  - > **Wireless Transport Layer Security (WTLS)**
  - > **Wireless Transaction Protocol (WTP)**
  - > **Wireless Datagram Protocol (WDP)**
  - > **Wireless network interface definitions**

# WAE 1.0 Contents

- **Specifications:**
  - > WAE Specification
    - architecture and “browser” semantics
    - Image, Phone book & Calendar content types
  - > WML
    - display mark-up language
  - > WMLScript
    - scripting language
  - > WMLScript Standard Libraries
    - standard scripting support libraries
  - > WTAI
    - telephony API

# WAE Ongoing Work Items

- **PICS**
  - > Interoperability and conformance
- **Errata/corrigendum on specifications**
- **Draft Specifications:**
  - > WTA
- **Proposed draft Specifications:**
  - > Phone Book API & Encoding
  - > Calendar item API & Encoding

# WAE Possible Future Directions

- **Examples (not a complete list):**
  - > New content types
  - > Extensions to current content types
  - > Better encoding of content types
  - > Advanced internationalization
  - > Additional network-specific telephony API
  - > Intelligent network integration
- **Need new member input on directions**
  - > Goals & Requirements

# WSP Specification Scope

- Provides shared state between client and server used to optimize content transfer
- Provides semantics and mechanisms based on HTTP 1.1
- Enhancements for WAE, wireless networks and “low-end” devices

# WSP 1.0 Contents

- **Based on HTTP 1.1**
  - > **Extensible request/reply methods**
  - > **Extensible request/reply headers**
  - > **Content typing**
  - > **Composite objects**
  - > **Asynchronous requests**

# WSP 1.0 Contents

- **Enhancements to HTTP 1.1**
  - > **Binary encodings**
  - > **Session headers**
  - > **Confirmed and non-confirmed data push**
  - > **Capability negotiation**
  - > **Suspend and resume**
  - > **Fully asynchronous requests**
  - > **Connectionless service**

# WSP Future Directions

- **Support for Quality of Service parameters**
- **Multicast data**
- **Ordered pipelining**
- **Chunked data transfer**
- **WSP Management entity**
- **Support for isochronous multimedia objects**
- **Need new member input on directions**
  - > **Goals & Requirements**

# WTLS specification scope

- **Connection security for two communicating applications**
  - > privacy
  - > integrity
  - > authentication
- **End-to-end security between protocol end points**

# WTLS 1.0 Contents

- **Based on TLS 1.0**
- **Very efficient usage of bandwidth**
- **Optimised handshaking**
- **Long-living secure sessions (i.e. reduced frequency of handshakes)**
- **Supports datagram-oriented bearers**
- **Lightweight public-key certificate format**
- **Elaborate choice of algorithms**

# WTLS Future Directions

- **Smart Card and SIM support will be incorporated**
- **Consistent support for application level security (e.g. digital signatures)**
- **Need new member input on directions**
  - > Goals & Requirements

# WTP 1.0 Contents

- **Common interface to physical layers**
- **Port-based abstract interface to upper layers**
- **extensible to a variety of networks and future transports**
- **transaction and datagram modes**
- **narrow to medium bandwidth channels**
- **multi-vendor interoperability**
- **peer-to-peer, client/server and one-to-many**
- **low memory footprint for “standard” handsets**

# WTP Ongoing Work Items

- **Reliable connection-oriented transport service**
- **PICS document drafting & review**
- **Complete protocol definition for WTP/T**
- **Include architecture for IS-136, CDMA, PDC**
- **Service primitive definition finalization**
- **Quality of service**

# WTP Future Directions

- **Protocol verification**
  - > Reference implementation
- **Complete protocol definition for WTP/C**
- **Management entity definition ( functions and interface)**
- **Tuning/performance data required (timer default settings)**
- **API for WTP**

# WAP Work Processes

- **WAP 1.0 specifications published**
- **WAP architecture specified**
- **Definition of Work Processes completed**
  - > **creation**
  - > **termination**
  - > **proposal for charters**
  - > **specifications lifecycle**
  - > **Activity creation process management**

# Role of the Architecture Group

- **WAP technical architecture owner**
  - > Maintaining/monitoring architectural consistency
  - > Advising the Board on technical decisions
- **Expert technical consultation**
  - > Expert knowledge of WAP architecture
- **Track unresolved and future WG work items**
  - > Collecting unsolicited input to WAP work
  - > Following/communicating technology trends
  - > Assuring that no work items “fall between the cracks” of other Working Groups

# Architecture Group

## WAP Deliverables

- **Process definitions**
  - > WAP Work Processes Definition
- **Specifications**
  - > WAP Architecture Overview Specification
  - > WAP Conformance Specification

# Architecture Group, Ongoing Work Items

- **WAP feature roadmap**
  - > Collection of member/external requirements
- **Draft Specifications**
  - > Interoperability and conformance statement
  - > WAP PICS Compendium
  - > WAP Working Group Charters

# Architecture Group, Possible Future Directions

- **Examples (not a complete list):**
  - > Interfacing to Standardisation Organisations
  - > Managing interfaces between Working Groups
  - > Managing external technical interfaces
    - **e.g. Intelligent network integration**
  - > Improving and documenting the WAP architecture
- **Need new member input on directions**
  - > Goals & Requirements

# ***WAP Process Overview***

**Chuck Parrish**

**WAP Management Board**

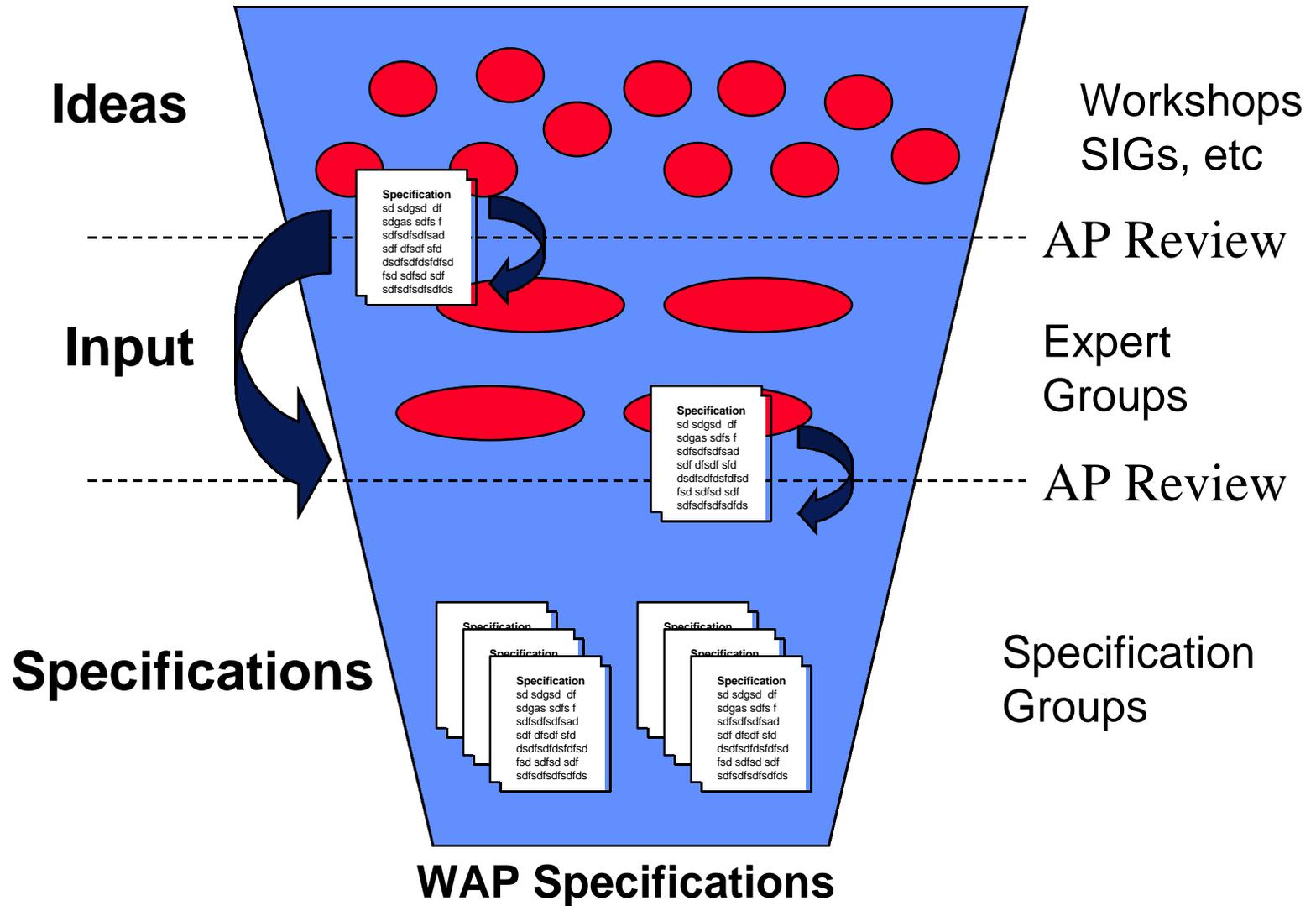
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# WAP Organisation

- **Board of Directors**
  - > Specification Committee
- **Specification Working Groups**
  - > Wireless Protocols Group
  - > Wireless Security Group
  - > Wireless Application Group
  - > Architecture Group
- **Expert Working Groups**
- **Special Interest Groups (SIGs), Workshops, etc**

# WAP Input Process



# WAP Working Groups

- **All groups**
  - > Hold regularly scheduled meetings
  - > Require support from WAP Forum, e.g. mailing lists
- **Expert Working Groups (EWG)**
  - > Maintain *Domains of Expertise*
  - > Explore new areas of technology
  - > Address industry or market issues
  - > Provide expert advice
  - > Require active participation
- **Specification Working Groups (SWG)**
  - > Draft technical specifications
  - > Require active participation
- **Special Interest Groups (SIG)**
  - > Active discussion of the interest area, e.g. e-mail, meetings

# WAP Role Definitions

- **Working Group Chair**
  - Manage the process and work within the working group
  - Organise and conduct working group meetings and events
  - Liaison to the Board, WGs, and external groups
  - Manage and enact all WG processes and procedures
  - Manage voting: attendance and voting rights
  - Ensure conformance to Board-approved charter
  - Publish detailed and accurate minutes
  - Track working group open issues and work items
  - Appoint specification editors
- **Specification Editor**
  - Create a specific draft specification
  - Track issues and open work items with a draft specification
  - Ensure conformance to the WAP Forum documentation format and processes
  - Publish regular updates of the draft specification

# Meeting Procedures

- **Meeting Attendance**
  - > Chairman must record/acknowledge attendance
  - > Attendance template must be used
- **Meeting Minutes**
  - > Detailed and accurate minutes must be recorded
  - > Chairman must circulate minutes for review
  - > Minutes must be published on member web site

# Voting Rules

- **Individual voting privileges**
  - Initial members
  - Grant: active participation of 75% of 3 consecutive meetings
  - Revocation: 3 consecutive meetings or 6 months of inactivity
  - Revocation/granting by chairman under extraordinary circumstances
- **Company voting privileges**
  - Members with one or more individual votes present in group
- **Quorum**
  - 50 % of companies with voting privileges

# Activities

- **Activities**
  - > Authorised and endorsed work
  - > Approved by the WAP Forum Board
- **Activity Proposal**
  - > WAP Template document
    - Proposed charter
    - Requirements
    - Motivation
- **Implementation of the activity proposal**
  - > Amendments to a Work Group charter
  - > Creation of a new forum
    - Work Group
    - E-mail list
  - > Workshop
- **Published Activity Statement**

# Activity Proposal Template

- **Market requirements**
- **WAP Forum / member resource requirements**
- **Scope of the work**
- **Timetables for the activity**
- **IPR issues, licensing rights**
- **Overlap with pre-existing standards**
- **Overlap with Working Group, new Working Group**
- **Deliverables / Charter amendments**

# Work Group Charters

- **Charter creation and amendment process**
  - > **1. Requirements from Activity Proposal**
  - > **2. Expert evaluation by Architecture Group a.o.**
  - > **3. Authorisation by board of directors**
    - **Modification of existing WG charter(s)**
    - **Creation of new WG**
    - **Rejection of proposal**
    - **Termination of an existing WG**

# WAP Document Types

- **Specifications**
  - > Specifies a technical or procedural area of importance to WAP
  - > Part of the WAP specification lifecycle
- **Input documents**
  - > Documents submitted to WAP
    - **ideas, opinions or commentary**
  - > Not part of WAP specification lifecycle
- **Other documents**
  - > Framework/process document
  - > Products of WAP process
  - > White papers, “best practices”

# Specification Lifecycle

- **Proposal**
  - > Initial proposal for a technical document
  - > Immature technical specifications
- **Draft Specification**
  - > Technical document considered for inclusion in the WAP Specification Suite
- **Proposed Specification**
  - > Under active review and validation
  - > Considered stable and complete
- **Approved Specification**
  - > Published with the WAP Specification Suite
  - > Copyright of WAP Forum Limited

# Specification Review Schedule

	<u>Proposal</u>	<u>Draft Specification</u>	<u>Proposed Specification</u>	<u>Approved Specification</u>
<b>Expiration Period</b>	6 months	6 months	N/A	N/A
<b>Promotion Process (to next stage)</b>	Simple majority vote of the authoring working group and the Specifications Committee	Two-thirds majority vote by authoring working group	Two-thirds majority vote by the authoring working group and the Specifications Committee (also, <i>last call</i> process)	N/A
<b>Minimum Period before promotion</b>	N/A	N/A	3 months	N/A
<b>Demotion Process</b>	None - simply expires	None - simply expires	Specification Committee may demote to Draft or Proposal status (simple majority vote)	N/A

# Working Group Chairs

- **Specification Working Groups**
  - > Wireless Protocols Group
    - **Nick Alfano - Motorola**
  - > Wireless Security Group
    - **Espen Kristensen - Ericsson**
  - > Wireless Application Group
    - **Bruce Martin - Unwired Planet**
  - > Architecture Group
    - **Hans H H Hansen - Nokia**

# New Member Presentations

- **Topics of general interest**
  - > Plenary meeting 7-9 p.m. on Thursday
  - > Arranged by the Architecture Group
  - > Registration to Hans Hansen, Architecture Chair
- **Topics covered by existing WAP specifications**
  - > Presentation to a Working Group
  - > Arranged by the WG Chairman
    - WAG : Bruce Martin
    - WPG : Nick Alfano
    - WSEC : Espen Kristensen

# Workshops

- **First stage in WAP input review process**
  - > Presentations of informal input paper
  - > Discussions of relevance to WAP architecture
  - > Proposal for next stage of work
  - > Arranged and chaired by Architecture group
- **Three meetings scheduled:**
  - > June 4th 09.00-12.00 : Interoperability & Testing
  - > June 4th 14.00-17.00 : Smart Cards & SIM
  - > June 5th 09.00-12.00 : Telematics

# ***Interoperability Testing***

**Nick Alfano**  
**WAP Protocols Group**  
**Motorola**

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# WAP Interoperability

- **Objective:** ensure to a high degree of confidence, that WAP devices (mobiles and servers) from multiple vendors will correctly interoperate.
- Successful interoperability can only be achieved by testing the product
- Types of Testing
  - Static testing - using a Protocol Implementation Conformance Statement (PICS)
    - Broad (macro) measurement of conformance
  - Dynamic Testing
    - Exercise the products' real behaviour in a live environment

# WAP Interoperability

- **Approaches to dynamic testing**
  - Pair-wise testing (bake-off)
  - Reference Implementation
  - Formal test suites

# ***WAP Forum***

## **WAP Board Election Process**

**Chuck Parrish**

***Board Member***

***EVP Unwired Planet***

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# Board Structure

- **12 member Board of Directors**
- **Categories**
  - > **Founding members (4 seats)**
  - > **CDMA Operator**
  - > **GSM Operator, European**
  - > **GSM Operator, Non-European**
  - > **Japanese Operator**
  - > **TDMA (IS-136) Operator**
  - > **Industry Suppliers (3 seats)**

# Board Election Schedule

- **Mar 30**      **Nominations opened**
- **April 30**    **Nominations Closed**
- **May 29**      **Ballots mailed**
- **June 29**     **Ballots returned (No later than)**
- **July**          **Lottery for 1yr and 2yr terms**
- **July**          **Results announced**

# Election Process

- **Each member votes in their category**
- **Ballots distributed by email**
- **Email or FAX by June 29th**
- **Another Election this time next year**

# **IPR considerations**

**Sanjay Jhawar**

**Business Manager**

**Smart Phones & Data Products**

**Cellular Subscriber Sector**

**Motorola Inc.**

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# IPR - Patents

- **Similar rules to ETSI & other standards bodies**
- **By joining WAP members must :**
  - > **agree to license any Technically Essential IPR to other members on “fair, reasonable and non-discriminatory terms” (probably not free)**
  - > **license allows manufacture & sale of Equipment fully conforming to *both* WAP specifications & one of the following :**
- **Technologies included so far :**
  - > **GSM, CDMA (IS-95/707), TDMA (IS-136), PDC, PHS, iDEN, FLEX, ReFLEX, Mobitex, DataTAC**
  - > **Under review : TETRA, Iridium**
- **No IPR royalties for content/app developers**
  - > **to promote usage**

# IPR - Patents

- Requirement to declare Essential IPR on a timely basis when aware of it
  - > for example if a member has filed for a patent on material which is brought as input to a specification
- No requirement to conduct IPR searches
- No requirement to notify in the pre-filing stage
  - > but once in a WAP Specification - its Public Domain and may not be able to file a patent in many jurisdictions
- Must *immediately* notify WAP Forum Board if not prepared to license Essential IPR
  - > provide valid reason e.g. believe not Essential
  - > gives an opportunity to design specs around the IPR
  - > disputes go to binding independent Arbitration

# IPR - Copyright

- **Copyright**

- > **All Official WAP Specifications are copyright WAP Forum Ltd.**
  - input papers etc. remain copyright of originator unless they become WAP Specifications
- > **May be photocopied / reproduced**
- > **May not be altered/modified**
- > **May not be fully or partially incorporated in non-WAP Forum documents without permission**
- > **May not remove copyright statement**
- > **Members must notify WAP Forum Board if they discover copyright infringement**

# Future meeting schedule

- **Week of July 20 - July 24**      **Helsinki**
- **Week of Oct 5 - Oct 9**              **Copenhagen**  
**(WAP Forum AGM)**
- **Week of Nov 30 - Dec 4**              **Tokyo**

# ***Discussion and Q&A***

**Chuck Parrish**  
**WAP Management Board**  
**Unwired Planet**

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