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Current functions: **CTO and Chief Architect, SDP and Consumer Services, Applications and Software, Huawei Technologies (Huawei Software Company)**

Experience: **Huawei Technologies**

October 2009 - Present:

- **Chief Architect and CTO, SDP and Consumer Services, Applications and Software, (Huawei Software Company)**

Oracle, Redwood Shores, CA, USA

October 2005 – October 2009:

- **Chief Architect and CTO, Oracle Communications (Since Feb 2008)**
 - Responsible for
 - Inbound architecture (across CGBU products – OSS, BSS, SDP and AIA),
 - Technical strategy for CGBU wide + Oracle Fusion Middleware (OFMW)
 - Outbound architecture (Industry Evangelization, Customer / Field support and Partners) CGBU wide + OFMW
 - Communications standards across Oracle
 - At same time on assignment in JAPAC (Japan / Asia / Pacific) to steer JAPAC CGBU Field Activities (Sales, Pre-sales, Marketing) from Dec 2008 – June 2009, dotted line report to JAPAC GM
 - Train and Re-organize JAPAC CGBU field
 - Collect customer / market feedback on products
 - On the job training
- **Chief Architect and CTO, Mobile, Voice, and Communications, Oracle, since March 2007**
 - Oracle Fusion Middleware (OFMW) / Server technologies and now CGBU (Communications Global Business Unit)
 - **Sr. Director of Architecture, Mobile, Voice, and Communications Platforms, Oracle, Between October 2005 and March 2007**
 - Responsible for architecture and technical strategy for Communications Platforms aimed at Communications Service Providers (Telcos and others) and enterprises, including:
 - SDP in Oracle Fusion Middleware (OFMW) product architecture design, support and review.
 - End to end Telco strategy and architecture, including OSS/BSS/SDP integration (SDP/OFMW, EM, Siebel, EBS, Metasolv, BRM(Portal Software), NetSure, ERP, ...), based on Oracle “AIA for Communications” ++ design. This also includes in-depth involvement, with evangelization, architecture and strategy support for Oracle CGBU (Communications Global Business Unit) and Apps (Siebel/MDM).
 - Technical support of business development, evangelization and technical review of potential partnership, acquisition, joint activities and customer engagement (RFXs, POCs) for SDP and end to end integrations.

- Outbound evangelization of Oracle vision (SDP, SOA, end to end integration, AIA/SDF, Pragmatic IMS, Convergence, Service Layer for Telcos, ...) with numerous papers, talks and seminars (including some with record setting attendance or recipients of best session awards).
- Some key achievements
 - “Father” of Service Delivery Platform (SDP) architecture, strategy and execution targeted to Telcos and Service providers as well as enterprise / internet. Vision drove SOA design like OMA OSE and TMF SDF and pushed Parlay to join OMA etc.
 - Gain industry support for OSE vision of an IT SOA based blueprint to service provider service layer environment (and relationship to network layers, IMS etc for example).
 - Business plan, vision and strategy that created Oracle SDP activities around OSE as new middleware activities and resulted into several acquisitions (and refusals).
 - Key strategy and argument based on end to end OSS/BSS/SDP integration that resulted into “AIA for Comms” then Oracle AIA across Industries, influenced TMF SDF and resulted into the biggest SDP deal ever closed in the industry.
 - Support of sales / field and closed many key deals for SDP and CGBU (even before the SDP activities were in place or when most did not believe in them). Meet many customers, partners, analysts and competitors...
 - On the way to getting SDP/Communications strategy in place:
 - Reshaped Oracle Enterprise Wireless, Telephony, RTC platform (Real Time Collaborations), tools and applications like OCS (Oracle Collaboration Suite) around Standard technologies (SIP, RTP, HTTP, VoiceXML, ...). This included:
 - Setting a new strategy and consolidating all telephony/voice activities at Oracle
 - Driving an open standard Mobile Email strategy, business case, industry evangelization and standardization that resulted into Lemonade/P-IMAP, support of OMA Mobile Email Enabler (MEM), now close to completion, widely supported and considered as the next generation standards for email.
 - Cleaned up as Architect the Oracle Wireless AS, OCS Mobile and Oracle Lite stories and consolidated them in OFMW, OCS (see above) and Oracle DB
 - Responsible for coordinating, representing Oracle and driving Communications standards across Oracle (including OMA, IETF, 3GPP/2, Parlay, OSGi, TMF (SDF), JCP (e.g. JSR 116/289/309), IEEE NGSON, SIP Forum and relevant activities at W3C, OASIS, Liberty, WS-I, etc.), as well as industry initiatives (Mobile Email Interest Group, IT/Operator Forum), Chair OASIS TMS, OMA Board of Director (till 2006, again for 2 years starting Dec 2008)
 - Active member of Oracle ARB (Architecture Review Board), ASG Core (Architecture Steering Group) + chair of Communiactions, SDP and Standards working groups, ASSC (application Standards Steering Committee), Corporate Standard Leadership.
 - Some areas of focus:

- Service Delivery Platform (SDP)
- Applying business rule via Policy-based orchestration and Service Gateway
- SIP / J2EE / Parlay / IMS (JSR 289, JSR 309, ...)
- Carrier grade middleware and HA for converged applications
- End to end OSS / BSS integration with SDP
- Mobile email standardization: Lemonade/P-IMAP support of OMA Mobile Email Enabler (MEM)
- Voice / Telephony /Multimodal middleware
- RTC middleware
- Telco / service provider middleware and application
- Enterprise mobilization
- Standardization
- Policy enforcement workflow, orchestration and service gateway/ rule engine and business rules factorization (PEEM, BPEL, Rule engines) and SCA (Service Component Architecture)

May 2005 – October 2005:

- **Director of Architecture, OCS Division, Oracle**
- Responsible for:
 - Technical strategy and architecture for all service aspects of OCS 11g product re-design
 - Same standard coordination and representation as above
 - Corresponding industry evangelization
 - Member of Oracle ARB (Architecture Review Board)
- Some areas of focus:
 - Mobile access to OCS
 - SIP / RTC and ESB (Enterprise Service Bus), including common OCS client
 - Presence services for OCS
 - Moving P-IMAP to Lemonade and dealing with OMA DS
 - Proofs of concepts of P-IMAP with several Telcos and ISPs
 - OCS for Telcos and Service providers
 - Presentation to ST Division and CEO of case for Telco initiative and initiations of corresponding activities (e.g. new Mobile, Voice, and Communications Platforms division, M&As, ...).

October 2004 – May 2005:

- **Director of Architecture, Mobile and RTCC – OCS Division, Oracle Corporation**
- Responsible for:
 - Technical strategy and architecture for all RTCC (Real Time Communications and Collaborations) aspects of OCS (Oracle Collaboration Suite) 10gR1/R2
 - Same standard coordination and representation as above
 - Corresponding industry evangelization
 - Member of Oracle ARB (Architecture Review Board)
- Some areas of focus:
 - Evangelization, standardization and implementations (Oracle, server vendors and device manufacturers) of P-IMAP
 - Moving OCS RTC to SIP:
 - Web conference

- Voice chat
- Presence
- Voice and Telephony
 - Voice mail and Conference
- Mobile Communication server
- Device Information repository and proposal to W3C
 - Adopted by W3C Mobile Web Initiative
- OMA DS
- OMA DM/CP, provisioning and Application life cycle management
- Calendaring
- Notification modeling and EDA
- OCS on demand (for service providers, hosted services)
- Preparation of business and strategy case to ST Division and CEO for Telco initiative

September 2002 – October 2004:

- **Director of Architecture, Wireless and Voice – AS Wireless Division, Oracle Corporation**
- Responsible for:
 - Technical strategy and architecture for:
 - AS Wireless (AS 904i, AS 10g)
 - Oracle Lite
 - Mobile, telephony and voice access to OCS
 - EDA (SOA, EBS), notifications and RFID Program Office
 - Same standard coordination and representation as above
 - Corresponding industry evangelization
 - Member of Oracle ARB (Architecture Review Board) – Representative for AS Wireless Division
- Some areas of focus:
 - Strategy for mobile email: open standard-based
 - Design, Evangelization, standardization and implementations (Oracle, server vendors and device manufacturers) of P-IMAP
 - Voice and Telephony strategy for Oracle
 - XHTML/XForms and Multi-channel Server, Tools and portal
 - Including voice and multi-modal access
 - XForms smart client (Offline and intermittent connectivity)
 - ADF Mobile development tool (Oracle JSF and IDE)
 - Mobilization of Oracle applications (EBS)
 - Multi-channel intelligent messaging / notification server
 - Design and standardization of OSE, PEEM
 - IMS / Parlay positioning
 - Initial concepts of a service delivery platform and content delivery platform:
 - Proposal, strategy and design
 - Win of a major tier one operator (with numerous affiliates) beating major competitors and repeat with several other tier 2 operators.
 - Support of Oracle Consulting and SIs/Partners engaged in projects

IBM Human Language Technologies, IBM T.J. Watson Research Center, Yorktown Heights, NY

January 2002 – September 2002:

- **Research Lead for Wireless Computing Standards and Technologies**
- **Lead of the IBM Pervasive Computing Strategic Framework Architecture Project Research Staff Member Manager**, Mobile Speech Solutions and Conversational Multimodal Advanced Technologies, IBM T.J. Watson Research Center, Human Language Technologies Department.
- Lead Research wireless computing task force (Research, Pervasive Computing Division, IGS, Communications Sectors, Technology Group): architecture, standards (OMA, 3GPP, 3GPP2, ETSI, IETF,...) and Research activities.
 - Drive the research strategy for wireless standards and technologies and its implications for wireless e-business.
 - On assignment to PvC division, this work directly contributes to the Pervasive computing strategic framework in terms of standards, architectures and technologies and to the design of SPDE (Service Provider Delivery Environment).
 - Lead the coordination of the different mobile architecture across PvC, IGS, CS and standards:
 - E.g design of SPDE (Service Provider Delivery Environment).
- Lead for IBM end-to-end multimodal strategy
- Chair of the IBM Multimodal Standard Board (IMSB)
- Awarded title of “Master Inventor” at IBM
- IBM representative at (Voice, Multimodal and Conversational): W3C (MMI WG, DI WG), 3GPP, WAP Forum / OMA, ETSI (Aurora/STQ), IETF (AVT, CATS), ITU (SG-16)
- Manage voice, multi-channel, multimodal and multi-device standard activities (i.e. in addition to above: Voice, XML events, XForms)
- Manage worldwide team to perform research, deliver prototypes and product components to PvC division and Research EBO (Emerging Business opportunity):
 - Interaction manager (Suspend and Resume, Multimodal browser, DSR speech recognition framework, Speech Engine Remote Control Protocols (SERCP))
 - XForms processor and IBM internal XForms open source project
 - Conversational multimodal browser
 - MMS (MultiMedia Services) based on INS (Intelligent Notification Server)
 - DSR Speech recognition framework and SERCP support by client and server-side speech middleware offerings
 - X+V
- Customer evangelization and contacts.
 - In 2002, I brought in several customers for multimodal EBO and joint projects (including 5 Telcos/MNOs).
- Active participant to:
 - IBM XForms Task force
 - IBM-wide, Research and Corporate/IP multimodal and voice task forces
 - Multimodal Research EBO engagements
 - Next Web / WSXL task force and monitor OASIS WSIA, WSRP TCs

- Pervasive Computing strategy Deep Dive
- DRM:
 - Coordinate strategy and architecture efforts to interoperate Mobile DRM (3GPP, WAP, ODR) with multimedia internet DRM (MPEG-21, ISMA, OASIS RTC).

1997 - 2002:

- Strategist and architect for IBM Multi-channel, Multimodal and Conversational activities: Multimodal e-business for Mobile Internet:
 - Owned standardization activities and representation (same list as above: W3C, ETSI, WAP, 3GPP and ITU)
 - Owned Research activities coordination and liaison to product groups (Manager)
 - “CTO” and strategist for IBM Multimodal EBO and Multimodal joint development activity between Research and Software Group (PvC, AIM, Voice Systems).
 - Proposed the principles and managed the specification to introduce VoiceXML as a module for XHTML in answer to SALT. This led to the XHTML + Voice W3C note (X+V).
 - Promoted XForms, XML events and XForms-based device-independent authoring as strategic programming model for IBM
 - Co-inventor and designer of iML/CML (interaction ML / Conversational ML): precursor of XForms and DI single authoring
 - Initiated IBM-wide interest and support for multimodal computing
 - Obtained funding for Multimodal EBO
 - Initiated and obtained funding for IBM-wide multimodal computing initiative
 - Co-architect of the IBM Next generation conversational / telephony architecture, basis for next generation of telephony and voice component of portal offering (Based on speech engines and audio sub-systems as web services, DSR speech recognition framework and SIP/SDP/RTP stack).
 - Co-inventor and co-designer of SpeechML (IBM contribution to VoiceXML Forum) and speech browser.
 - Developer of DOM-based MVC multimodal architecture and execution model.
 - Member of IBM Multimodal Executive Committee.
 - Research strategist for Conversational, Multimodal and Next Web, in particular Next Web integrations, architecture and programming model:
 - Developed underlying architecture and formalism for WSXL (transposition and extensions of DOM-based MVC architecture and execution model for multimodal and multidevice browsing.
- People & team / project management:
 - Long term and short term research support and algorithm/architecture improvements of form-based dialog managers and statistical NLU/NLG for telephony offerings; universal telephony conversational architecture.
 - Conversational Computing: conversational middleware and architectures, e-Voice, speech browser, VoiceXML, re-usable dialog components, objects and foundation classes, transcoding, conversational platforms and clients, servers, hybrids.
 - Multimodal conversational systems: UIs, browsers / user agents, shells, APIs, protocols and tools; XForms, multiple authoring, single authoring, declarative and imperative programming models - tools and runtime support.

- Distributed Conversational systems: APIs, protocols and algorithms, conversational networking, DSR, RecoVC, VoiceTIMES, speech engines as web services.
- Team of more than 25 direct reports, world wide and many more dotted line

In addition, until December 2000:

- Speaker recognition and biometrics: core algorithm research, product development and APIs across platforms (SVAPI, BioAPI, ...).
- Created the activity, built the team and obtained funding for adventurous Research project (4 years)
- Developed the core technology (winner of 2002 DARPA evaluation).
- Several shipped product (desktop, telephony, embedded (cars and PDAs))
- Embedded speech systems: reference architectures, acoustic models, noise robustness, multimodal and conversational user interfaces, browsers. Research and product development.
 - Shipped acoustic models for car environment and PDAs.
- Speech-enabled Palm Pilot (PSA- Personal Speech Assistant): Hardware, Software, Industrial Design, Business issues and Marketing / customer contacts.
- Multimodal and conversational portals.

1995-1998:

- Transcription of radio and TV data (including HUB-4, Switchboard and audio-visual automated transcription systems and products).
- LVCSR - speech recognition (including Switchboard – Telephony environment).
- Research in speaker recognition and speech biometrics (Desktop, Embedded, Telephony including IVR environments).

AT&T Bell Laboratories, Murray Hill, NJ

1994–1995:

- Member of Technical Staff
- Research on robust speech recognition and acoustic modeling and some auditory modeling.

Additional Activities:

2008 – Present

Kaqquru (Stealth mode)

- Co-Founder and CTO

Advisor

- Qik.com (Strategy, Product Features, Telco landscape and Positioning, Architecture, Advisory Board)
- UEWHOO (Advisory Board – Stealth mode)
- Primary Insight – Bear (Expert Consultant)

Patent technology expert

2000 – 2008

Advisor

- Several start-ups

1993 – 2001

GEI (Global Environment Institute) (non-profit international educational organization)

- Co-Founder, Board Member and Curriculum Manager

UCL

- Invited lecturer on signal processing and Conversational / Multimodal technologies

ISU

Additional achievements:

- Invited lecturer (Space Engineering / Satellite Studies)
- Member of BoD and advisory board of standard and industry bodies (e.g. OMA, WWC)
- Winning laureate of WTN (World Technical Network) for Software 2004.
- Laureate for WTN 2009 for work on IT for Telcos in Software (individual and corporate categories)
- Invited speaker to several conferences and workshops.
- Author of numerous scientific papers, books and scientific presentations (peer reviewed journals, conferences), industry talks, presentations and keynotes as well as internal white papers, technical and strategy proposals and design specifications
 - Including some seminar/webinar with record setting attendance (e.g. > 2500 for SDP TMGF Webinar) or recipients of several best session / papers / talks awards
- Reviewer / scientific committee for several activities.

Editor or co-editor of several standard specifications and numerous standard submissions or contributions.

- Expert on Text independent speaker recognition, speech biometrics and ASR/conversational technologies
- More than 190 published pending and granted patents, with 120+ granted and 45+ additional pending but not yet published patents:
 - One noted in MIT Technology Review as top 5 patents
 - Several patent licensed and providing significant licensing streams to IBM
 - Several IBM corporate, divisional and supplementary awards
 - Research division award to speaker recognition activity / group and patent portfolio granted in 2008 for contributions that were made...
 - In October 2008, IBM accepted (despite me having left since 2002) the work done on Conversational Biometrics as a 2008 IBM science accomplishment; a very prestigious award at IBM.
- Some key design, industry initiatives and inventions:
 - AIA (for Communications) that us SOA/EDA based and inspiring the OSS/BSS/SDP integration and additional concepts beyond AIA (service level charging, subscription management delegation to OSS/BSS, Unified User profile, metadata for dependency characterization, resource management enablers, ...). Drive as a result the design of TMF SDF
 - OSE as service layer blueprint for service provider and based of SOA based SDPs and the notion of enablers and specific enablers (PEEM, Profile, Presence, Call/media control, media server control, voice access, charging, ...)
 - Service provider delivery platforms (IBM SPDE, Oracle SDP, OSE, ParlayinOSE, IMSinOMA)
 - SIP/HTTP/J2EE integration (JSR 289 and beyond along with views on a better design) and Telephony/voice platforms
 - Carrier-grade J2EE and use of distributed cache a la Coherence for HA across multiple protocols
 - Service-level SCIM,, context and routing as well as Service level telephony AS abstracted from network and with SOA based call / session control
 - Policy enforcement workflow, orchestration and service gateway/ rule engine and business rules factorization (PEEM, BPEL, Rule engines) and SCA (Service

- Component Architecture)
 - P-IMAP / Lemonade for open standard mobile email and resulting IETF Lemonade
 - Multimodal and conversational technologies: Multimodal and multi-device authoring, middleware and execution model, Interaction markup language and multi-channel technologies, XForms and Device Independent Authoring
 - SpeechML (IBM submission to VoiceXML) / Conversational ML and conversational browser: father of VoiceXML and of resource management protocols
 - Text independent speaker recognition, speech biometrics
 - ASR / NLU / TTS techniques
 - ...
- Invited Professor – Université Catholique de Louvain; Belgium - Graduate level course: “Ubiquitous Conversational Systems” (Department of Electrical Engineering and Department of Physics).
- Executive Vice-President - Academics, COO and Member of the Board of Directors – Institute for Global Environmental Issues (1993-2000)
- Fundamental impacts on companies product, strategies and organizations. A few examples include:
 - New Activities:
 - IBM Biometrics, IBM Embedded Speech, WebSphere Voice Server and Telephony Server, Multi-channel, multimodal /conversational computing, SPDE
 - Oracle Push Email, OCS RTMS, Oracle SDP activities, Oracle AIA, IDM/UUP for Telcos, RT / CG Container and SOA
 - Organizations:
 - IBM: DT6000 => Websphere Voice Server (VoiceXML) + Speech Groups => Software Group: AIM then PvC
 - Oracle:
 - All Oracle Telephony / RT / Email => OCS; All Telco MW (e.g. Wireless AS, RT / Telephony in OCS) => OFMW SDP; SPD + BEA => CGBU
 - Oracle CGBU reorganization of its PM/Dev activities

Education: 2008: Landmark Forum, **Landmark Education.**

2000 -2001: IBM, MBA Program (Tailored for IBM Research / Technical Executives). Offered with NYU.

1990–1994: Université Catholique de Louvain; Belgium (UCL) and CAIP, Rutgers University, Piscataway, NJ (Visiting Scientist) while Research Assistant for prestigious Belgium National Fund for Scientific Research (FNRS)

PhD in Science - Physics & Electrical Engineering (With Highest Marks):

- Advisors: Professors. J-P Antoine and P. Delogne (UCL) – I. Daubechies and R. Mammone (Rutgers).
- Thesis: "The wavelet transform in signal processing, with application to the extraction of the speech modulation model features"

- Research Assistant of the Belgian National Fund for Scientific Research, (FNRS) - 1990-1994
- Visiting Researcher, Center for Computer Aids for Industrial Productivity (CAIP), Rutgers University, NJ, USA. – 1992-1994 (worked with Prof. R. Mammone, J. Flanagan and I. Daubechies).
- **DEA** (Diplôme d'études approfondies) in Telecommunications (UCL) – 1991 (Attended)
- **DEA** (Diplôme d'études approfondies) in Physics (UCL) – 1991
- **ISU Space Studies Degree** – International Space University (ISU) - 1991

Prior education:

1985–1990: Université Catholique de Louvain; Belgium (UCL)

- **Diplôme d'Ingénieur Civil Electricien (i.e. MS. and BS. in EE)** (1985-1990) (With Highest Marks)
- **MS And BS in Physics** (1986-1990) (With Highest Marks)

Some Relevant Skills:

- Unique ability to rapidly design “the right way”, from the onset and be proven correct on key principle and close on detailed proposals. At the same time, unique ability to almost immediately detect “wrong designs”, from the onset and often be proven correct.
- Expertise in many domains, with strong academic background / degrees, industry visibility and credentials, publications, achievements and patents).
- Very broad deep technical skills resulting into unique analysis, design and plans of attack and sometimes very impressive / disconcerting for unfamiliar parties exposed to it.
- Believe in designing with a strategy and a plan to execute on a vision and with a clear purpose and understand that success takes time and commitment: plan must be flexible but remain consistent to win.
- •Can convince, negotiate and compromise with many interested parties, including opponents to align with strategy or plan. Very good in any argumentation or presentation with consultants, customers or event competitors/skeptics: can sell anything that makes sense, if believe in it. Grand Communicator with Customer, Partners, Competitors and in Industry fora and events (as well as internally to staff and management).
- Experience at Management / Employee or Team growth (Had ~ 25+ directs at peak at IBM) with many dotted lines. Today at Oracle, I try to work with short team and whole groups/projects/products dotted lines. I have add several former VP Engineering, Chief Architects and CTO (even from publicly traded companies) reporting to me.