# Stéphane H. Maes, PhD.

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# Summary

Dr. Stéphane H. Maes is CTO and Distinguished Technologist for Cloud and IT Operation Management Products in Micro Focus (and Prior HP/HPE Software). Maes leads the vision, technical strategy and architecture.

A seasoned technologist and leader, Maes is an expert on Web, Cloud, IT, AI, Autonomous Computing, DevOps, Life Cycle Management, Middleware, Service Delivery Platform (SDP), Telecommunications, Mobility, Internet of Things / Machine2Machine, Integration and Service Oriented Architecture (SOA) / Micro-service technologies as well as service layers for communications, cloud and pervasive computing and Voice and Multi-modal Technologies. He has more than 25 years of experience in the high-tech industry. Prior to joining Micro Focus/HPE/HP, he held positions at AT&T Bell Laboratories, IBM, Oracle, Huawei and Ericsson. His approach has often been to innovate and disrupt while delivering the unexpected. This significantly changed industries several times and big impact on systems that everybody uses every day.

Maes has contributed to key technology fields and standards. He holds more than 275 patents and patent applications and has received awards and industry recognition for many of his patents, in areas such as Speech Recognition, Multimodal interactions, Service Delivery Platform, Mobile Email, Mobile Internet, Internet Protocol Television (IPTV), Telecommunications, Internet of Things (IoT)/ Machine2Machine (M2M), Service Oriented Architecture (SOA), micro-services, autonomous IT, Autonomous Computing and Cloud.

Additionally, Maes has been a technical advisor and co-founder of several start-ups where he has often helped define key disruptive winning strategies and offerings. He has authored numerous papers and frequently speaks at scientific conferences and at industry events. He has also been involved and many industry activities (Standard specifications and Open Source initiatives)

# Experience

Chief Technologist, IT Operation Management (ITOM), Micro Focus at Micro Focus September 2017 - Present (Position resulting from Spin-Merge of HPE Software with Micro Focus completed on 9/1/17)

- ITOM TSO - Technology Strategy Office

+ Focused on proposing, reviewing and supporting architecture and strategy of the different ITOM Suites/Foundation layer (Shared Services, K8S, CaaS and modular CaaS service sharing) / ITOM Platform, integration across suites (as a whole, to address challenges or introduce new capabilities like say advising on conversational support in ChatOps) and associated technical strategy for offerings.

- Distinguished Technologist (DT)

- Member and Coordinator of Micro Focus TLC (Technical Leadership Community), including container strategy and recommendations cross MF and expanding the containerized ITOM platform approach and strategy MF wide

- Leading SUSE / Micro Focus ITOM better together: SUSE for ITOM and ITOM for SUSE

- Technical Lead across Micro Focus for Cross ITOM portfolio outbound strategic and trail blazing project deliveries: e.g. ITOM on Azure / Public Cloud in production ahead of product support of Azure (Single suites and Multi-suites with HCM, SMA-X, CMS, OpsB, Shared CMS/CMDB)

- Technology executive sponsor and coordination with R&D, CS, PS for complex or first time projects with select key or lighthouse customer: open door, close deal technically, shepherd design and delivery [Exec Superstar 2018 Award]

# Chief Technologist and Distinguished Technologist, ITOM (Continued) at Micro Focus September 2017 - Present

- Distinguished Technologist (DT)

- Leading innovation/transformation projects and strategy on:

+ Containerized Suites (e.g. ITOM Suites), Cross Suite integration. Suites (and IT4IT) as composition and integration of ITOM services, Dynamic Configuration of movable ITOM services, Containerized stand-alone (with dependencies) OpenStack services as ITOM services, Port to (Public Clouds), ITOM Platform and Use of CaaS modules

+ Multi-tenancy across suites. transformation strategy (based on supported coexistence) from classic products to evolving containerized suites, UX, portal & persona workbenches as customized apps, and integration, Coexistence and containment strategy with respect to competitors (e.g. Service Now),

+ Migration Strategy to SMA-X (from MS, SMA-SM, Remedy, SNOW etc.)

+ Bare metal Cloud (private), Physical / Virtual Data Center / Cloud /Containers / CaaS and PaaS Management (day-1 and day-2), Optimized migration/transformation/placement, Live Migration/ move/scale enabling Day-2 with PaaS like features across legacy, physical, virtual, containerized and cloud native workload, ITOM Surrounding Kubernetes, CaaS and PaaS.

+ Autonomous Operations (AI-based problem and incident predictions, remediation decisions, automated remediation, closed loop auto-remediation)

- + AI generated Workflows (OO / Cloud Slang) and AI migration
- + Several patents + Patent review committee

### Member at OpenStack Foundation

### April 2012 - Present

- Coordinate HPSW activities at OpenStack

- Coordinate cross HPSW / Cloud BU reflection to OpenStack of Cloud Native management platform requirements and DevOps/Dev Platform (e.g. Cloud Foundry/Docker/ Kubernetes) and Autonomous computing / Autonomous IT

- Planned strategy and approach + designed key aspects and coordinate on-going input across HPSW and Cloud BU to OpenStack (especially Murano, Mistral, Congress, Heat, KeyStone and impact on other projects): Blueprint, contributions => Making OpenStack (DevStack) and HP Helion Enterprise suitable (compatible with cloud bridge management with shared technology components). Including:

- Policy driven fulfillment (https://wiki.openstack.org/wiki/PolicyGuidedFulfillment)
- Policy PDP, delegation
- Linked to Score / Codar Open Sourcing, Cloud Foundry, Docker, Kubernetes etc
- Bare Metal K8S and Cloud using OpenStack Services and ITOM containerized Suites
- OpenStack Stand-alone services as containerized micro services and ITOM Containerized Suites acceleration (Ironic, Redfish, Cinder, Neutron, Kuryr, ...)

### Member of the Board of Advisors at Peritus.ai September 2017 - Present

A "The Hive" company (Hivedata.com).

Al driven solutions for ITSM, Operations and Support

# Member of The Board of Advisors (BidCRM) September 2017 - Present

Integrated CRM and Marketing SaaS

(focused first on the SMB market)

- Strategy
- Architecture
- Use cases and integration between modules
- User Experience
- Key unique differentiating features (e.g. SaaS with Offline / Online support, Company and customer Policies for Campaigns, marketplace and management of sales channels like Amazon etc)

- SaaS application and Scalable Marketplaces via containerization and namespace based multitenancy

Member Board of Advisors and Acting Corporate CTO (VNC) January 2014 - Present

- Technical Architecture, Strategy and IP for continuity and seamless network switching and optimization (with an OTT Service)

- Strategy, roadmap and positioning for OTT with respect to aspects/opportunities around SW/ HW/Chip offering for Enterprises, Service providers (Internet), Telcos, Telco 2.0, NFV and SDN & IP, OTT WiFi Telecom Operator, smart pipe Big Data business

- Acting Corp. CTO

- Designing and Delivering a viable OTT continuity service offering (Apps and Cloud-based server/ service) design / IP / delivery followed by a strategy for on-premise solution for Enterprise, SP and Telcos:

- Delivered full prototype and beta service of Android Client and Server to provide call (SIP, GSM) continuity across Cellular and WiFi or among Wifi Network switches => Bases for next funding activities and beta VNC service

- Focusing VNC R&D, investment (search and internal) and business on this road map vs. numerous other distracting directions and aspirations (e.g. all these other aspects above)

- IP Portfolio Updates (Session Continuity portfolio and existing patent portfolio)

### Informal CTO Advisor at SM CTO Advisors February 2016 - Present

- Architecture, technology and strategic advises to plans, product/services designs and features or business plans.
- Performed formally or informally (e.g. mentoring or reviewing)
- Companies include: Verizon (NG Networks, 2016), Inference Analytics (2018), Octarine (2018), Acopula Networks (2018) and more [Confidential].

# Member of Boards of Directors and / or Advisors January 2012 - Present

- Member of the Board of Advisors M2M stealth startup: Machine to Machine (M2M) / Internet of Things (IoT) Platform, Software, Protocols and Management (2012/2013)
- Member of Board of Advisors Cloud File / Storage Aggregator / Enterprise Content Management (ECM) (2014) [=> CloudFuze Board Membership announced mid 2014]
- Member of Board of Advisors: stealth NG Networking (Seamless switching) Start-up (HW, Device, NFV/Virtualized, Chip) (2013) [=> VNC]
- Evaluation of opportunities (BoD, BoA, Founder and Strategy/Technical/R&D Guidance/CTO role): A MooC service "Publish you own classes" (2012 with design and prototype), Cloud and IoT (Internet of Things) Compatible EDA (Event Driven Architecture) startup (2013 to 2015), NFV (Network Function Virtualization) services beyond Telcos (2013-2014), Cloud APM and Recommendation / Remediation Service (2014-2015) [=> Lantana Cloud], Wearable Multi-modal Computing (2014-2015) [Wr:st CoFounder], SaaS DevOps Cloud development and testing platform [Artitelly], Cloud / Data Center Operating System Platform [=> MosaixSoft], Cloud scale data driven integration platform, Online gamified education platform (CoFounder), Global OTT Cloud Telco (2016 ...), AI-based support/service desk/case exchange: Peritus (2017), CRM/

Marketing for SMBs (BidCRM), AI cooking recipes, Online travel concierge network - Revived community based travel recommendation and concierge service (2017 - ...).

### Experienced Executive January 1998 - Present

Experienced executive proven successful at driving inbound, outbound architecture and strategy as well as managing international / world wide distributed teams. Main recent role included: 1/3rd devoted to product architecture (i.e. Chief Architect role), 1/3rd to outbound architecture (e.g. architecture and technical strategy for customer engagements, field activities and industry activities (partners, standards) and 1/3rd technical strategy input (e.g. product roadmap, business plan, investment, M&A, technical part of marketing messages).

Highlights of relevant skills:

- Unique ability to rapidly design "the right way", from the onset and be proven correct on key principle and to almost immediately detect "wrong designs"
- Broad Expertise in many domains.
- Very deep technical skills resulting into unique analysis, design and plans of attack.
- Believe in designing with a strategy and a plan to execute.
- Can convince, gain and negotiate many interested parties, Grand Communicator' Skilled at managing upwards.
- Experience at Management / Employee or Team growth.
- Flexible approaches to drive strategy and architecture and are adapted to the characteristics of the company: at IBM, which understands well technology transfer, I had a team to drive innovation, prototyping or product modules then transfer to product teams / BUs and then working with the BUs on the next steps; at Oracle, where innovations comes from development (PMs are also in development), the approach was to work with and embed my team within the product development and management to guide and coordinate the efforts and projects; At Huawei, where processes are overwhelming and location/language/culture and practices render the previous approaches inefficient, my approach was to setup and drive review and guidance meetings (the first and final are gating). At Ericsson, the processes helped to often embed myself in existing task forces and activities.
- M&As

Tireless inventor and innovator

# Innovator and Inventor

# January 1995 - Present

Innovator and inventor with

- More than 250 patents awarded or pending (Several objects of significant awards and licensing,
- cross-licensing or patent purchase deals)
- Numerous publications and awards

- Significant impacts on the industry with items like: (Non-Exhaustive)
- o Conversational Biometrics
- o Multi-modal and multi-device architecture and programming leading to for example to:
- · CML/IML, SpeechML that led then the W3C VoiceXML standard
- Speech browser and IBM Voice and Telephony Servers (instead of DT-6900) that promoted VoiceXMI and SIP solutions for Enterprise and Telcos
- Led to SIP server solutions and associated JSR 116, 289 and associated standards and industry offerings in VoIP
- Embedded multimodal / Speech system (Palm Pilot Co-processor and in-car speech assistant) anticipating Android/iOS etc multimodal interface and in car navigation and entertainment systems)
- Distributed speech recognition protocols, codecs and architecture and concept of conversational virtual machine which are all today exemplified with solutions like SiRi and other Voice and Multimodal assistant etc
- Architecture behind portlets/widgets and their interactions etc in a portal and browser with WSXL etc
- o Mobile video chat:
- · Technology and strategy key to Qik Success and its adoption as Skype video chat
- · o OTT operator:
- · Matching Telco operator functions Over the top (OTT) (Think Google Fi) with solutions like
- OTT continuity, Oracle "Pragmatic IMS", Wifi aggregation, Non-roaming Cellular (Think model of programmable local SIM like started by Apple SIM)

### Innovator and Inventor (2) January 1995 - Present

Continued...

- o IT-based service delivery platforms and MW (SDP)
- Invented/designed at IBM, created the offering at Oracle that became market leader of IT SDP offerings especially with BEA, Market leader at Huawei and Ericsson
- · SDP based IMS and NG-IN variation
- Alternative to IMS wall garden for Vanilla IETF / Internet with equivalent capabilities
- Drove Key Oracle Acquisitions (HotSIP, Net4Call, BEA then later Convergin and Acme)
- Based for SIP based VoIP and IPTV (strategy that led Huawei to · 1 in IPTV and SDP)
- Along with Cloud concepts this IMS work led at Huawei then at Ericsson to defining and implementing the concepts of IMS virtualization and what became NFV (Network Function Virtualization)
- · Key advances in Policies and BPM (e.g Around BPEL)
- Key concepts in SOA exposure/governance and management (Life Cycle management) and anticipating Micro-services
- E.g. TMF SES work

- · Middleware for Telco
- Middleware for Service providers that anticipates PaaS and Cloud
- Multinational SDP at Huawei that gave Huawei · 1 market position and are first large scale
   PaaS / Cloud solutions for SPs
- Service-level charging architecture (=> Oracle BRM re-architecture and plans beyond Telco)
- · IDM/SSO and OAuth paradigm for modern services o

Mobile / Push Email:

- Designed to push Blackberry and others to support Oracle standard email on parity to MS exchange and IBM Domino/Notes
- · Led to IETF Mobile Email RFCs (Lemonade-Profile-bis etc)
- Leveled the plain field for Google and Apple (and ActiveSync) when they released Android and iPhone; Bringing the battle instead to UX and ecosystems. o IOT/M2M:
- · Key architecture and strategy for "managing Things" and for delivery services using them
- Impact on major M-Health Telcos projects and standard activities
- · Further crystalize on-going work on Cloud and IoT message brokering and EDA
- Crystalized further the need to expand SOA to included life cycle management (a key aspect of Micro-services)

# Innovator and Inventor (3)

# January 1995 - Present

Continued...

- o Integration / SOA / Micro-Services:
- · Oracle AIA pattern:
- Led to biggest deal of oracle (at least till 2009)
- Key new offering for Oracle (Still today)
- Key approach for Oracle to integrate its offering and key factor in its success to integrate acquisitions while awaiting Oracle Fusion (support of them)
- · HPSW Strategy to integrate and revitalize portfolio:
- IT Service broker solution: Propel with Catalog aggregation, Portal Consolidation and Microservices
- IT4IT / ITM Integration: Service Exchange
- On-going work to develop Cloud and IOT scale EDA (Event Driven Architecture) and Message Brokering Fabric

o Cloud and Automation:

- · Topology based modeling (e.g. like TOSCA, TOSCA YAML profile etc)
- · Topology based life cycle management
- · Policy driven provisioning and life cycle management
- Leads to activities at OpenStack around policy driven fulfillment (Murano, Congress, Mistral)

- · Policy driven Topology-based modeling and provisioning for DevOps and Release management
- Hybrid and Cloud bridge management:
- Policy and model based management of environment with traditional applications (in DC or on Cloud infrastructure) and Native Cloud applications (e.g. developed on Openstack for Openstack or a la Netflix, Facebook etc)
- Policy and big-data / analytics based:
- o Event aggregation and processing
- o Incident prediction
- o Remediation and Auto-remediation
- Multi-tenancy management
- Platform for First day and second operation across all ITM aspects
- o Hybrid deployments
- o Combining SaaS an non SaaS
- o Containers like Docker etc
- · Building on the above the new platforms, tools and programming model resulting from Cloud:
- Cloud native and cloud Hybrid micro-services
- Cloud Scale integration (Beyond iPaaS)
- Cloud service composition programming model
- Autonomous IT
- Autonomous Computing (Beyond aPaaS and Cloud Foundry)

### Member / Laureate - WTN - World Technology Network June 2004 - Present

WTN Fellow

Laureate (Individual) for personal contributions to Software (IT Software)

- for Biometrics work

Laureate for Corporate IT software contributions:

- For driving standard mobile email (Oracle)

# Member at IEEE

# January 1987 - Present

+ WiFi, WiMax, M2M

# Member - FABI

# June 1990 - Present

**Belgium Federation of Engineers** 

# Member AILv

# June 1990 - Present

Association des Ingenieur Sortis de Louvain

### Member of The Board of Advisors at Composure.ai

#### September 2017 - February 2018 (6 months)

Composure.ai is new name for Mosaixsoft (After exit from Stealth mode) - Advisory role since 2015.

- Optimizer use cases for virtual and containerized workloads
- Strategy for Optimizer positioning:
  - With Composer
  - Surrounding controllers
  - With Kubernetes, CaaS, PaaS
- M&A considerations
- Competitive analysis
- IP Considerations

Company and IP/Software acquired in February 2018

### Member HPE SW TRC at Hewlett Packard Enterprise

January 2017 - September 2017 (9 months)

Technical Review Committee - Across HPE Software

Chaired Technology updates across BUs

### Member TOSCA (OASIS) at Oasis

#### May 2012 - September 2017 (5 years 5 months)

- Coordinator for HPSW Cloud
- Member TC
- Influenced direction of YAML Profile specifications (Topology as code)
- TOSCA and NFV (Network Function Virtualization)

### Co-Founder and CTO (Actarin)

### January 2016 - August 2017 (1 year 8 months)

Autonomic IT, Autonomic Computing via Big Data

Stealth - Emerging from experience with Lantana Cloud (eZest)

# CTO, TSO, Automate-Orchestrate-Transform to the Cloud, ITOM, HPE Software at Hewlett Packard Enterprise

### September 2015 - August 2017 (2 years)

HPE SW spin-merged with Micro Focus on 9/17

- ITOM TSO (Technology and Strategy)
- Technology Strategy and Architecture for ITOM (IT Operation management) Automate, Orchestrate, Transform
- ITOM Container Strategy and Plans (+ Proposal for HPE SW and HPE)
- HPE SW ITOM, Cloud BU + EG common architecture and strategy offering for Cloud

- Hybrid Delivery Management:

- Cloud management of Containers, VMs and traditional in Hybrid cloud bridge environments
- Custom PaaS (For Cloud Native and Non Cloud Native workloads)
- Autonomic Computing (Incident prediction/big data, Remediation)

- Container Appliances and Shared Components with Hyper converged (Container Management, Cloud Scale inventory, models, policies, ...) and innovation

- ITOM SaaS: Portfolio SaaSification strategy (one set of container instances per tenant or project)and SaaS platform as well as Remote Managed Virtual Appliance

- Service Brokering (Aggregation, Integration, Service provider)
  - Propel SaaS (and SAW)
  - Propel and SAW
  - Propel and SM

- Propel and Managed Cloud, Cloud and Cloud Orchestration (Belmont (with ES VPC, MPC, ...), Saratoga, Unity, CO, ...)

- Cloud Scale and Enterprise Grade Service Exchange
- SB Content business
- Strategy to move from stopping to disrupting players like Service Now
- Cloud brokering and service model wiring
- HPE MPP and HPE Admin/Ops Console and UI/UX across all personas
- Portfolio integration and suites resulting into ITOM containerized Suites releases (versus numerous siloed products), including mixed mode deployments (containerized and not) and integration (Within suite, across suites with external and 3rd party products)
- ITOM and Containers Strategy (Offerings and internal use)
- MSPs and CSPs
- Helion Network (e.g. Reseller use case with Multi-tenancy for MSPs/CSPs)
- CI/CD and ITOM for LoBs
- ITOM Policies and Placement optimization (e.g. Cloud Optimizer, Cirba, Cloud Genera,
- Turbonomics)

# CTO, TSO, Automate-Orchestrate-Transform to the Cloud, ITOM, HPE Software (Continued) at Hewlett Packard Enterprise

September 2015 - August 2017 (2 years)

- ...
- Day 2 support in HCM: Moving, scaling and Bursting LCM APIs for workloads and infrastructure using live migration (e.g. exploiting Micro Focus plate spin) and DR as well as support of Brown to manage (Discovered) workload and migration to the cloud.
- Bare metal cloud and Bare metal K8S provisioning using ITOM Portfolio + Reuse of OpenStack micro services with containerized suites.
- IT wide Service modeling (Beyond ITOM, IT4IT etc) as answer to Service Now

- ITOM/IT incident and problem prediction, recommendations and remediation and Autonomic computing
- A-Team: Inbound innovation prototyping and Outbound technical solution Review, Vetting, Design and Prototyping
- Lead on Cloud, Container and autonomic computing/IT/Ops
- Autonomous Ops as Vision and North Star for HPE SW ITOM
- (Coexistence) Strategy (ITSM and ITOM) to reverse trends and win vs. Service Now
- Due diligence / Synergies with Micro Focus portfolio including Linux SUSE subsidiary portfolio.
- Workload move, scale and burst for existing applications (not just containerized or cloud native) and PaaS across existing/monolithic, Cloud Native and containerized applications
- Application migration and / or transformation to the cloud
- NFV and ITOM + NFV / SDN as Cloud Native NG applications (Managed as others apps, possibly on IT clouds with suitable SLAs)

### Member of Board of Advisors (MosaixSoft, Inc.)

August 2015 - August 2017 (2 years 1 month)

Now known as "composer.ai"

Optimized Graphs of Workload stack for Hybrid Cloud and Data Centers:

- Architecture, Technology, Strategy advisory
  - Differentiators
  - MVP features

- Coexistence / Value proposition with Kubernetes and other Controllers: Graph guided and optimized container, PaaS and controller scheduling

- Relevant use cases
- IP

- Open Source Strategy (Kubernetes, OpenShift, Cloud Foundry etc), associated partnerships and revenue strategy

- Competitive strategy vs. Cirba / Densify, Turbonomics (VMTurbo), Cloud Genera, etc

- Sales/Marketing enablement support/review

# Chief Technologist and Distinguished Technologist / Strategist at Hewlett-Packard

March 2012 - August 2017 (5 years 6 months)

- Executive (VP level)

- Expanded role to CTO and Chief Architect for Cloud and Automation Management BU (e.g. SA, OO, Client Automation) since March 2013.

- HP DT (Distinguished Technologist)

- Technical innovation interest focused on; Cloud service topologies, realized topologies, policies (provisioning, monitoring, security, remediation) and associated lifecycle management, Cloud Middleware (PaaS, message broker/EDA, Hybrid cloud integration) and autonomous computing (NoOps, Autonomous IT, auto-remediation, self remediation e.g. auto-scaling, autonomic computing), Cloud Bridge management platform, software driven data center, SDN (Software Defined Networking) and NFV (Network Function Virtualization), Micro Service Architecture and Orchestration by integration pattern, tools and platform (Propel Service Exchange).

- Inventor / co-designer of Propel Service Exchange is also the base of the concrete lower level blueprints and patterns of IT4IT (the NG evolution beyond ITIL for the new style of IT emerging with the digital enterprise) as pushed by HPE and adopted by the Open Group
- Manager
- More than 60 patents (assigned to HP/HPE) pending
- Patent coordinator and champion + reviewer for Cloud, Mobile and Software inventions besides Cloud and Automation
- Champion for innovation within Cloud and Automation
- Reviewer for HP TechCon
- Blogger and Tech / Customer / Analyst / Conference speaker on Service Brokering, Microservices, Service Exchange, DevOps and Autonomous Computing

# Member of the Advisory Board (Artitelly, Inc)

### July 2015 - December 2016 (1 year 6 months)

Technical advisory to Artitelly Solutions Inc and CloudTestSoftware.com

Advised especially on DevOps and Cloud Dev Tool chain adoption by enterprises and viability of / strategies for a startup cloud based new tool chain

### Member of Board of Advisors at CloudFuze

### January 2014 - December 2016 (3 years)

- Advised on targeting Enterprises
- Advised on targeting compliance (more than aggregation and document management)

# Co-founder and CTO (Wr:st)

### January 2014 - December 2016 (3 years)

Next generation Wearable and IoT platform

Wearable related apps and services

- Hardware designs
- Software architecture
- Related IP
- Architecture

HP Representative (OCF - Open Cloud Forum) January 2015 - June 2016 (1 year 6 months)

Member Board of Advisors and CTO at Lantana Cloud Inc January 2014 - January 2016 (2 years 1 month)

Acting CTO

Autonomic Remediation via Big Data using:

- Cloud Infrastructure monitoring, APM, logs and topology recognition
- Incident prediction extracted from above and trained on ITSM and Change tracking
- Recommendations Generation
- Decisions algorithm
- Automated execution

# Chair of CTO Board - ITOM and ADM, HP Software at HP

# January 2014 - September 2015 (1 year 9 months)

- Chair of CTO Board for IT Operation Management and Application Development Management Divisions of HPSW + Participation of Security, and Big Data (Autonomy/Vertica).
- Topic Examples: Platform Ordinance, Cross BU Licenses, M&A and Partnership evaluation + diligence, Language/Platform selection (e.g. reduced dependency on some licensed/IP encumbered languages), Security mandates, Architecture input in product release lifecycle process (LCM), self monitoring (and life cycle management) mandates cross portfolio, SSO and IdM cross portfolio, Reporting ad Dash-boarding cross portfolio, Adoption of Shared Technologies (IdM/SSO, SX, Micro services, Brokering, Catalog Aggregation, Common portal/UE ...)
- NFV (Network Function Virtualization) for HPSW across HPSW, ES (CMS) and Cloud BU
- Chair of HPSW & ITM Architecture Council
- Representation of cross portfolio architectural and technical recommendation to GMs (e.g. Shared Tech, Propel SX, Micro Services, IDM/SX, Catalog Aggregation and Common Portal, Open Source Strategy, Integration by Orchestration and IT4IT...)
- HPSW Open Source Strategy
- ITOM Common SaaS, Platform and Micro-service strategy, architecture and guidelines
- Representation of ADM and ITOM in Technology Evaluation Programs and in any technical discussion such as partnerships w/legal and finance regarding roadmaps and licenses

# CTO and Chief Architect, Cloud, Automation, Management - IT Service Brokering, ITOM HP Software at HP

# June 2013 - September 2015 (2 years 4 months)

- Same responsibilities as previous roles in HPSW (Cloud and Automation Pillar) but now with combination of IT Ops Pillar (BSM, APM, OMi, SiteScope, MA, ...) and SPM.
- Since Oct 2013: Architecture, Technology and Strategy for Propel Project HP IT Service Broker and Service Catalog Aggregation (An alternative to ServiceNow...):
  - Software, Managed/Hosted Solution and SaaS offering across HPSW and ES:
  - e.g. Next Generation Integration framework (Propel Service Exchange), Portal (CC-UE),

Catalog (CC-UE) and Knowledge Management Hosted, SaaS and On Premise.

- Micro Services Pattern, Architecture and tools + Platform; up taken across ITM and whole HPSW

- Identity Management / SSO, Knowledge Management, etc (Jumpstart)

- Big Data (HAVEn - Autonomy/Vertica/Hadoop)

- IT, SaaS and Cloud Brokering

- Cloud Compatible Integration via Orchestrated Cloud Compatible EDA (Event Driven Architecture)/Message broker

- ITM Reference Architecture v.2

- ITOM Coordinator with Field for South East Asia and South Korea CMT
- R&D Coordinator for ITOM/Propel/Cloud and Automation Management Complex Projects / Field Engagements World Wide
- Co-activities with ES on Propel (IT Service broker and Service Exchange) and ITO 2.0 / automation transformation

# CTO and Chief Architect, Cloud and Automation Management, HP Software at HP March 2013 - September 2015 (2 years 7 months)

- Key additional ITM products/features to be brought to cloud and/or support Cloud: CloudOS/ Helion, MaaS, SaaS, PaaS, IaaS (Controller), Security / Management, Hybrid IT, Applications Transformation, Analytics, ALM, ALI, BSM, OO, SA, UCMDB, ITPS / ITSM, ISH/ISM, Self-Service, Catalog... as SaaS + Hybrid on-Premise/SaaS.

- Adding responsibility for OO (Operation Orchestrations), SA (Server Automation); DMA (Database and Middleware Automation) Risk Management and Compliance, Cloud Business Intelligence and Executive Scorecard

- ITM (IT Management) Reference Architecture and Reference Implementation

- Next Generation platform for Cloud and Automation (Day 1, Day 2, ITOM reporting and dashboarding, Devops, Dev Support, PaaS/Cloud Foundry etc)

- Strategy and Technical plan / architecture for HPSW and Cloud BU Cloud Management Platform:
- Classical + Cloud Bridge + Native Cloud Management

- Products (Cloud, Automation and Management from ITOM (CSA, OO, CODAR/ARA, Ops Analytics, ...)), Helion (Management Platform and Development platform)

- OpenStack HP contribution (e.g. Heat, Murano, Mistral, Congress etc) and Cloud Foundry

- OpenStack Strategy (Score, CODAR, ...)
- OO Score and Docker / Kubernetes

# CTO and Chief Architect, Cloud Products, HP Software - HP at HP

March 2012 - September 2015 (3 years 7 months)

CTO and Chief Architect for:

- + Cloud Products, HP Software:
- HPSW Cloud Products and Cloud Automation Products

- Key product included CSA (Cloud Service Automation), CDA (Continuous Delivery Automation), Lab Management Solution Readiness, CM&S (Converged Management & Security/Middleware), CC-UE (Converged Cloud User Experience), IaaSC (IaaS Controller) / Cloud OS, HP OpenStack, Cloud Middleware / PaaS / Orchestration, Model, template and policy based cloud automation, Cloud EDA/Message Brokering, Executive Score Card, CBI (Cloud BI)/AI, CODAR/ARA ...

- Key target use cases: Lab Automation, DevTest/DevOps/Sec, DC Transformation, Applications Transformation, Hybrid Clouds, Cloud Application Development (Middleware, PaaS, Tools), Cloud Automation, (Hybrid) Cloud Integration ...

- HPSW part of Pan-HP Cloud (HP Converged Cloud), OpenStack / Helion native and Cloud Bridge Management Platform; Cloud Development Platform (Helion, Cloud Foundry, DevOps, Autonomous Computing, ...)

- HP CloudSystem (CSA for CS, CS-E, CS-Lab, Cloud Maps) & MOE (Matrix Operating Environment), Matrix (ESSN)

- HP Cloud Offerings for Service Providers (e.g. including HP/ALU) cloud system offerings and integration and Cloud/CMS (e.g. AP4SaaS)

+ Software Automation, HP Software

- Key product included products like SA (Server Automation), DMA (Data Base and Middleware Automation), OO ...

- Support IT journey from Automation to Cloud ...
- + Architecture and strategy support to Cloud and Automation go to market activities
- + HPSW Cloud and Automation Innovation Lead & IP/Patent Lead and Champion
- + Responsible of Technical, Architecture and Strategic Decisions PORs and processes to reach, update and enforce them.
- + Cloud and HPSW Standards / Industry activities (TOSCA, OpenStack / Helion)

+ HPSW CTO Board and Architecture Forum

# VP and Chief Architect, Multimedia BU (BMUM), Consumer and Business Applications at Ericsson April 2011 - March 2012 (1 year)

- Architecture and Technical Strategy (Inbound/Outbound) for BMUM World Wide and its R&D, Regional Engagements Practices (EPs), Customer Units (CUs) Activities and Industry Activities
- Key product: MSDP, ECE, MiO, MSP, eStore, MLP, ADC, TV, mHealth, M2M, RBT, RCS(-e), ICCE/UVP, BCS + IMS Virtualization/NFV
- Member of BMUM/CBA LT (Leadership Team) and CBA WW Engagement Practice, Ericsson Cloud Program, and numerous Ericsson wide task forces and activities/program...
- Some Key Highlights:
- Re-architect and consolidate portfolio around a coherent offering of a modular platform (Service Enablement) that is also NG and futureproof for M2M, Cloud, Enterprise and internet
- Vision and strategy updates reflected in BMUM re-org (TV/CBA consolidation, reduced (Investment) focus on SE vs. OSS/BSS and media)

- Supported numerous key accounts and wins (especially in regions like North America, South East Asia/Oceania, Middle East and India)

- Cross Ericsson activities:

- API Exposure and Service Enablement framework (established by Ericsson Strategy Board cross BMUM, BNET, BUGS, Ericsson Research, Group Functions and regions): establish a commonly agreed upon blueprint/framework, stragegy and architecture / project guidelines.

- Applied to all Ericsson projects related to Applications or to service layer enablement, especially SOA, Cloud Services, M2M Enablement, SDP/ API/Network exposure in particular: Next Evolution of Network Architecture strategic corporate decisions; M2M service enablement and SDP/VAS product roadmap and product architecture

- Ericsson Java application server strategy to address challenges with roadmap of AS in use and plethora of other AS usages (established by Ericsson group functions with direct impact on BMUM and BNET deliverables, roadmap and development/ investment strategy)

- Integration framework cross Ericsson offerings (Group unction initiative) (~ AIA like)
- Cloud service and cloud infrastructure programs
- M&A and partnership

### Delegate at Open Mobile Alliance

### June 2002 - February 2012 (9 years 9 months)

- Drove the use of IT/Internet technologies and approaches instead of Telco only approaches or standards.
- Drove OSE blueprint and relationship to SOA, BPEL etc for exposure
- Drove Parlay integration and approach to relationship to ONEAPI
- Drove Multimodal standardization
- XHTML Mobile profile and industry alignment
- Device / user agent profiles
- DRM
- IP messaging, presence etc
- IMS in OSE
- Parlay in OSE
- PEEM (SOA PDP/PEP and policies) BPEL, Rule Based etc
- Member of Board of Directors

# Co-Founder and CTO (Kaqquru)

# January 2010 - December 2011 (2 years)

- A Community and reward based travel advise, concierge and local advertisement service
- Stealth mode
- Sought first round of founding with detailed technical design and business plan
- Full technical design and Prototype

# Delegate / Coordinator at ATIS

# January 2008 - December 2011 (4 years)

Enabler and service layer

# Delegate (TMF)

### January 2006 - December 2011 (6 years)

Evangelized and designed specifications and approaches for SDF (Service Delivery Framework) and SES (Software Enabled Services) evangelizing the use of SOA / IT practices (a la W3C, Oasis etc) and its different dimensions with respect to OSS/BSS (and its own notions of services and lifecycle).

- OSS/BSS business processes (eTom), data models (SID) and interfaces (TIP)
- Cloud Activities for Telcos

### Board of Advisors at Skype

### January 2011 - June 2011 (6 months)

Member of Board of Advisers

Adviser on architecture and strategy to target Telecom market

Tried to push Skype (and Microsoft) [Like did for Google a la Project Fi) to become a WiFi and Cellular without roaming OTT operator using Skype, Skype WiFi and Oracle's "Pragmatic approach to IMS" (OTT equivalent functions to IMS on IETF Internet) including OTT continuity.

# VP of Software Architecture, Technology Strategy And Planning, Futurewei US/North America R&D at Huawei

### October 2010 - May 2011 (8 months)

(Promoted Oct 2010 to additional role))

- Technical Strategy:
- Strategy for SW at Huawei
- Huawei Consumer SW technical strategy aspects
- US R&D Support:
- Advisor to Innovation Project selection and execution
- CTO role for Software Technology planning and Projects at Futurewei US R&D: Main Topics:
- Cloud / Single Cloud (IaaS, PaaS, SaaS)
- Machine to Machine (M2M) / Internet of Things (IoT)
- NG Middleware, Cloud EDA/MoM/Message Broker, SCE, SEE
- WebSockets, BiDirectional or Server-Initiated HTTP (HyBi)
- Multimedia (NG-applications, streaming, 3/4/N-screens
- Pioneering concept, strategy and implementation of Network Function Virtualization: Network function and Enablers on Cloud (Ahead of standardization activities and proof of concepts by vendors and operators)
- Mobile Internet

# CTO and Chief Architect - SDP and Consumer Services, Applications and Software at Huawei September 2009 - May 2011 (1 year 9 months)

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

Responsibilities:

- Product/Offering/Solutions architecture:
- SDP, Multinational SDP, new generation SDP (IT MW ready for Cloud) and services
- Digital Home and IPTV
- RCS and NGIN
- SDP Application store / market place and Digital Shopping Mall
- Responsible of key customers and Huawei SW strategic projects and directions:
- Examples of strategic projects: Cloud Computing and SDP
- Strategy and execution for Huawei SW with respect to IT/Enterprise/Internet
- Member of Huawei Technologies SMC (Software Management Committee Huawei Wide, not just Huawei SW Company), Huawei SW ARB
- Face of Technology for Huawei Consumer SW for industry and customers:
- C-Level and Technical decision makers
- Industry events
- Standards (Strategy, coordination, representation)

Key Highlights:

- Huawei SDP passing Oracle and Ericsson to become · 1 mostly thanks to the initiatives that I drove:
- Multinational SDP: IT/SOA design
- Hosted SDP services, Digital Shopping Mall and App store (built on Huawei Multinational SDP)
- Huawei RCS (Broader than GSMA concept)
- SDP as a platform also for Network projects and services (legacy and NGN)
- SDP as platform for IPTV and Digital Home
- Adding Messaging Services and Infrastructure.
- Huawei becoming  $\cdot$  1 in IPTV market shares thanks to the IPTV migration to SDP
- Strategy pushes resulting into Huawei Wide Reorganization and new strategy in 2011 and its implications for Huawei SW and R&D with reorganization across new BU: Carrier, Enterprises and Consumers (redefined as Internet SPs) and focus on enterprise and Cloud. Huawei announced in 2011 a target of 7.2 BUSD revenue for 2012 for its enterprise company...
- Process and strategy recommendations Huawei wide on SW
- Key R&D activities

CTO Consulting (ESSEM Consulting)

January 2011 - April 2011 (4 months)

CTO, Architecture and transformation consulting and recommendations for companies like Parallels, YouSendit etc

Representative at ETSI
January 2002 - April 2011 (9 years 4 months)
e.g. DSR, Multimodal, Voice, IPTV, LTE, IMS, TISpan
Delegate (3GPP)
January 2000 - April 2011 (11 years 4 months)
Multimodal, DSR, IMS, DRM, service layer aspects for 3G, LTE and IP evolutions

Board of Advisors at Qik January 2006 - January 2011 (5 years 1 month) Board of advisors - Qik.com

Stephane has worked as an advisor to Qik from its inception in 2006 to the sale in 2011. Thanks to Stephane's leadership the team successfully evolved Qik cloud architecture to integrate with Mobile Operators with and without IMS infrastructure in place. This resulted in revenue distribution deals for Qik from 13 operators world-wide (including all the four US Major operators Sprint, T-Mobile, ATT, Verizon). Qik has become the launch partner for 4G launches done by Sprint, T-Mobile, Verizon, Softbank, etc. Qik revenue streams have grown 10x from 2009 to 2010 and 2011. Qik has now become the mobile-video platform for Skype/ Microsoft. Technology is what is now available in Skype Mobile, Xbox etc (i.e. Why Skype now works well on smartphones and tablets)

Qik.com: Co-Founder, CEO and Chairman: Ramu Sunkara; CEO: Vijay Tella; BoD included: Marc Andreessen

- Video Compression; Mobile Video
- Video Sharing as Cloud Service and with integration to Social Networks
- Mobile Apps (iTunes, Android, Symbian, Java, Windows Mobile, RIM, ...)
- Streaming protocols and architecture + optimization for 2G,3G, 4G, LTE,SIP and IMS
- 4G Video Chat services (mobile/Telco)
- Telco strategy

# Representative (JCP)

September 2002 - October 2010 (8 years 2 months)

- Device Independent
- Device identification/user agent profiles
- Portlets
- Presence
- JAIN

- Parlay / Java realization
- SIP: JSR 116, JSR 289
- JSR 309
- JSR 248
- JEE
- J2SE
- J2ME
- OSGI relationship

### Participant at W3C

### January 1998 - October 2010 (12 years 10 months)

- Voice Browser / VoiceXML
- Device Independent
- User agent profile
- XHTML/XForms
- Multimodal
- WS/SOAP and WSI/OASIS coordination
- WebRTC/WebSockets
- XHTML Mobile profile and WAP Forum then OMA alignment

# Delegate (IETF)

### January 2000 - September 2010 (10 years 9 months)

- Distributed Speech recognition DSR RFCs (Codecs)
- MRCP (Media Resource Control protocols)
- SIP, SIMPLE and derivatives
- Media transport (RTP, RTCP, RTSP)
- Mobile email LEMONADE RFCs (Lemonade Profile bis: ~ Next rev of IMAP-4 and SMPT used by most smart phones today)
- HTTPBis, WebSockets, WebRTC, CloudEDA and Message brokers ...

# Chief Architect and CTO, Oracle Communications / CGBU at Oracle Corporation

September 2008 - October 2009 (1 year 2 months)

- Responsible for
- Inbound architecture (across CGBU products OSS, BSS, Network Intelligence, SDP and AIA),

- Technical strategy for CGBU wide + Oracle Fusion Middleware (OFMW) ( with focus on Telcos/ Communications)

- 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
- Proposed and pushed through acquisition of Convergin
- New/(re-)architected converged charging (Real time, online/Offline, prepaid and postpaid) solution for BRM built around usage of MW (OCCAS)
- Numerous patents, papers and awards

# Chair OASIS TMS at Oasis

### January 2007 - October 2009 (2 years 10 months)

Telecom Member Section + Monitor / represent Other Communications related aspects for Oracle

# Member of Board Of Directors at Open Mobile Alliance

March 2005 - October 2009 (4 years 8 months)

Elected by OMA membership

### Participant/Coordinator at Oasis

### January 2003 - October 2009 (6 years 10 months)

Directions for

- BPEL, SAML, WS-X, SOA Architecture and Identity management
- Liberty/OMA alignment
- WSI/W3C WS alignment

# Delegate and Member of Board of Director at Open Mobile Alliance

### May 2002 - October 2009 (7 years 6 months)

Rep and chair at many WG including: OMA ARCH, OMA REQ, Mobile Email, POC, Mobile Enterprise, IM, Presence, Messaging, DRM, Multi-modal, WAG, ... covering many enablers BoD (Board of Director): Alternate Director then Elected Primary Director. While secondary Oracle director, I was Alternate to Board of Director Vice-Chairman and Chair of Legal Committee.

# Cloud OFMW Architecture Advisor at Oracle

# May 2009 - September 2009 (5 months)

Advisory role on Cloud Computing architecture and strategy for OFMW products and Oracle in general

# Chief Architect & CTO, Mobility, Voice, and Communications at Oracle

January 2006 - February 2009 (3 years 2 months)

Inbound / Outbound architecture and Technical strategy for:

- SDP (Service Delivery Platform)
- Oracle Fusion Middleware for Telcos:

- MW/JEE
- SOA Suite (BPEL, WSM, ESB, BAM/BI, ...)
- IdM and security
- Portal
- Tools
- AIA

- Co-design of Next generation Converged Communications / Application Server on Weblogic: SIP/ HTTP/Telco Protocols + Service broker with EDA + OSGi Bundles

- Communications standards across Oracle
- Oracle Architecture Review Board
- Oracle standard Board
- M&A, diligence and absorption of HotSIP, Net4Call and BEA

Key highlights include:

- Design of AIA (Application Integration Architecture) SOA integration of existing Oracle offerings as main strategy to combine products while awaiting for Fusion Apps.
- Winning proposal to Oracle Executive management of SDP strategy and business plan followed by operation/execution including integration, development, sales and M&A (Proposed and made case for HotSIP, Net4Call, Convergin) that successfully brought Oracle from a few mobile / WAP and messaging deals to the • 1 in 2009 in SDP MW market shares...
- architected re-org and transfer of SDP Business after BEA acquisition to CGBU + OFMW coordinated activities
- Numerous patents (Including OTT Continuity, Charging and Policies), awards and papers
- In 2008, during exploratory discussions, presented to Google an approach to become a WiFi and no roaming Cellular virtual operator using Google Voice, Oracle's "pragmatic approach to IMS" and OTT Continuity. This anticipated today's Google Fi Project

# Delegate (OSGi)

September 2002 - September 2008 (6 years 1 month)

# Chief Architect and CTO at Oracle. Mobile Voice and Communications

September 2002 - June 2008 (5 years 10 months)

# (Promoted CTO in 2007)

Architecture including:

- (Product and Research) for all what relates to:
- real time collaboration (OCS)
- mobile including SIP, Telephony, Voice
- OCS architecture re-design
- Covering:
- Standards

- Technology Strategy and vision
- Industry Evangelization

On Oracle ARB and Oracle Standard Board

Covering:

- Application Server Wireless (2002-2005)
- Telco Platform and offerings (2002-2005)
- Pervasive Computing (2003-2005)
- Oracle Lite (2003-2005)
- Tools (ADF Mobile) (2004-2005)
- RFID (2004-2005)
- Application mobilization (2004-2005)
- OCS Oracle Collaboration Suite and RTC (Real Time Communications) (2004-2006)
- SDP strategy
- Re-org of AS Wireless (2004) and OCS (2006)

Key highlights include:

- Design of P-IMAP that became IETF RFC (Lemonade profile Bis) for mobile email (next version of IMAP and SMTP) used by most smartphones
- successful push of strategy and business plan proposal for SDP/MW for Telco to Oracle Executive management resulting in creation of SDP group and significant investment (+ reorg of OCS and Wireless AS)
- Numerous patents, awards and papers

### Delegate (Parlay)

January 2003 - May 2008 (5 years 5 months)

Highlights:

- Push for alignment then affiliation with OMA
- Push OMA for uptake with REST and alignment with GSMA ONE API
- Push for use of standard WS approaches and technologies

### Architecture, Standard and strategy at IBM Pervasive Computing

### June 2001 - September 2002 (1 year 4 months)

On-loan from IBM Research.

- Strategy/architecture for use of Pervasive Computing and AIM (WebSphere) for Telcos
- Co-design of SPDE (First IT/SOA Service Delivery Platform) on WebSphere Middleware

### Research Staff Member Manager at IBM Research

July 1995 - September 2002 (7 years 3 months)

Highlights:

- Research in speech and speaker recognition, Biometrics, Conversational systems, Multi-channel and Multimodal systems, LVCSR, Stochastic NLU/NLP
- Co-designed SpeechML that became basis for VoiceXML, iML/CML as multimodal and conversational ML (bases for XForms) and Multichannel/Multimodal blueprints (MVC) bases for multimodal solutions, Multiscreen, Device independent authoring and Portal/portlets (WSXL).
- Worked on ViaVoice and embedded engine for Palm Pilot and Car
- Created Multimodal and speech browser and drove strategy to evolve IBM IVR to a design of WebSphere Voice Server (VoiceXML) and Telephony Server (SIP)
- On loan to PvC Division Co-designed SPDE
- Invented CVM Conversational Virtual Machine as a multimodal/conversation UI and OS (see Siri and iOS or Android analogs Today: they borrow key features)
  - Key concepts of SLA enforcements, Policies, Utility Computing and Autonomic Computing /
- Autonomous systems that IBM then spearheaded
- Invented Conversational Biometrics
- Invented DSR (Distributed speech recognition) with specs at 3GPP and a DSR coding standard at IETF (RFC)
- Numerous patents, papers and awards
- Master Inventor
- Managed large multi-site / international team

# Delegate (WAP Forum)

# January 2000 - May 2002 (2 years 5 months)

Pushed to standardize multimodal Pushed for creation of OMA

# Founder and Dean of Curriculum - GEI - Global Environment Institute

# July 1994 - January 1999 (4 years 7 months)

A global summer program focused on environment and modeled after ISU that offered several summer sessions for student from around the world (each ear in a different location - starting with Berlin in 1996).

# Research Staff Member at IBM Research

# July 1995 - January 1998 (2 years 7 months)

Speech Technologies Department

Highlights:

- Started Large Scale speech biometric activities at IBM
- Started Biometric research activities at IBM
- Started work on Embedded speech recognition and TTS

- Invented distributed speech recognition (e.g. like siri for iPhone) and associated Encoders and Encoders
- Research on Large Vocabulary Conversational Speech Recognition System and Natural Language processing (LVCSR)
- ViaVoice
- ARPA/DARPA evaluations of LVCSR
- Started Speaker recognition on huge populations as IBM Research Adventurous Research Program (Led to ARPA evaluations and seeded the technology for several companies start-up and products)

### MTS at AT&T Bell Laboratories

### September 1994 - July 1995 (11 months)

Acoustic processing Department

Research on Signal / Speech processing under adverse noisy conditions

### Lecturer / TA at International Space University

June 1994 - September 1994 (4 months)

Space Engineering At UAB

### Faculty at International Space University

June 1993 - September 1994 (1 year 4 months)

SSP (Remote sensing/satellites) projects and Engineering Departments

# Research Associate at Université Catholique de Louvain

### September 1990 - September 1994 (4 years 1 month)

Jointly at Department of Telecommunications and Hyper Frequencies (TELE), EE, FSA (Faculty of Applied Sciences) and Department of Theoretical Physics (FYMA), FS (Faculty of Sciences), UCL, Louvain-la-Neuve, Belgium

Research on Wavelet Transform and Sub-band coding for HDTV for signal processing (including MPEG 2 and 4 standardization - Competing standards vs. DCT), image and video compression (lossless, lossy, perceptually lossless or optimally lossy) and speech / speaker recognition) TA for numerous Physics, EE and Engineering lectures

### Research Associate (FNRS)

### September 1990 - September 1994 (4 years 1 month)

FNRS: National Fund for Scientific Research, Belgium - Most Prestigious Belgium Research and Grant Organization

- Research Associate working for FNRS at UCL (Belgium) in TELE (Department of Telecommunications Engineering) and FYMA (Department of Mathematical Physics) and at Rutgers University, CAIP Department

- Lecturer for Physics and Electrical Engineering Departments

### Student EE and Physics at Université Catholique de Louvain

June 1985 - July 1994 (9 years 2 months)

Bachelor in Engineering, Master in Electrical Engineering (UCL 1990)(Specialized on Solid States Physics, Electronic Circuits Design (FAI), Hyperfrequencies, Telecommunications and signal processing (TELE))

Master Thesis: Modeling of Quantum Well Structures

DEA in EE - Telecommunications (UCL 1991).

Bachelor in Physics, Master in Physics (Theoretical Physics) (UCL 1990)

Master Thesis: Physics of Quantum well structures

DEA in Physics (UCL 1991)

PhD in Theoretical physics / EE on. Thesis: Wavelets, Subband Coding and Speaker recognition (UCL and Rutgers University - 1994) - Included work also on speech and speaker recognition, wavelet transformation and HD TV Encoding (Subband Coding proposal for MPEG-2) Teaching Assistant (1987-2004) for numerous courses in Engineering (FSA), EE and Physics (FS)

programs

# Visiting Scientist at CAIP at Rutgers University

September 1992 - June 1994 (1 year 10 months)

CAIP = Center for Computer Aid for Industrial Productivity on Busch Campus Research on Wavelet and Sub-band Coding for Speech and Speaker recognition.

### Lecturer / TA at International Space University

### June 1993 - September 1993 (4 months)

Global Disaster Prevention and Recovery Remote Sensing SSP project

# Contractor for parabolic flights experiments at European Space Agency

### June 1989 - September 1989 (4 months)

Developed experiment monitoring and analysis SW solution (C/C++)

Development work driven out of l'Hôpital Erasme, ULB (Université Libre De Bruxelles - Brussels Free University, Belgium)

### SSP'88 at CERN

# June 1988 - September 1988 (4 months)

European Center for Nuclear Research

- Worked on building/testing the CERN OPAL (Omni-Purpose Apparatus for LEP - (Large Electron Positron Collider)) detector - Precursor to LHC (Large Hadron collider).

- Developed C/Fortran monitoring Software to monitor conditions in detector and detect events (particles)

- Attended SSP'88 curriculum

Education IBM Research Executive MBA Program MBA, IBM Research MBA, 2000 - 2001 Activities and Societies: IBM Research MBA Rutgers University PhD, Physics / EE: CAIP, 1992 - 1994 Activities and Societies: Visiting Scientist at CAIP (Center for Computer Aids for Industrial Productivity) PhD (See UCL) Université catholique de Louvain BS, MS, PhD, Electrical Engineering and Physics, 1985 - 1994 Activities and Societies: UCL = University Catholic Of Louvain, Louvain-La-Neuve, Belgium BS in Physics (1990) Degree in Electrical Engineering (1990) - BS/MS MS in Physics (DEA) (1991) PhD in Physics / Electrical Engineering (1994) University Catholic of Louvain, Louvain-la-Neuve, Belgium: FSA - Faculty of applied Sciences Faculty of Physics - Theoretical Physics International Space University MSS - Space Studies, Space Studies, 1991 - 1991 Activities and Societies: Toulouse, France - specialized in Satellite Applications & International Manned Spaced Mission to Mars SSP Project