

# CHRISTIAN HOLZ M.Sc.

COMPUTER SYSTEMS ANALYST  
HOLCOM CONSULTING LTD

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## CANADA

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## SUMMARY

- Degree as Master of Engineering Science in Information Technology
- Many years of varied professional experience in high-tech fields
- Experience in product and product line management
- Over ten years of experience in analysis, design, implementation and testing of software components and large systems in an international distributed development environment
- Good communication skills, sense of humour, and the ability to engage in open and tolerant dialogue of all work-related issues

## TECHNICAL SKILLS

- System test of an IBM carrier VoIP server designed for Deutsche Telekom. Design, documentation and implementation of automated regression tests (Jenkins Framework) to ensure SIP-protocol conformity. Functional tests of the implemented telephony features using SIPP and a Perl-framework. Defect tracking with IBM Rational Clearquest. Design and Implementation of an XML-tool (Perl) to generate test data into a DB2. Setting up a framework to test the business statistic system of the VoIP server.
- Integration of a Rohde&Schwarz radio system into a VoIP system including Asterisk PBX'es.
- Feasibility study regarding all IP connections (VoIP/DDI) for business customers of Deutsche Telekom AG. CPE provisioning based on TR-069. Integration of ISDN Terminal Adapters into the platform. Concepts to manage ISDN channel capacities of the Terminal Adapters on a VoIP DDI connection according SipConnect1.1 / RFC6140.
- Design and implementation of a WEB-based system to monitor traffic on the Deutsche Telekom IVR portal. (Nagios,Cacti, PHP, mysql)
- Integration, configuration and test of the Nokia-Siemens NGN switch hiQ8000/hiQ4000 and hiQ4300
- Design and implementation of an automatic regression test environment for a carrier grade VoIP switch. The switch is part of the ISP NGN project of IBM Germany. Test of the standard telephony features and the SIP RFC standard conformity. Analysis, documentation and tracking of defects using ClearQuest.
- Integration of a Nortel CS2000 VoIP switch in an existing carrier network and integration testing. Analysis, design and implementation of a provisioning tool to create virtual private exchanges (VPBX) on the Nortel CS2000.
- System knowledge in VoIP systems (protocols like SIP, RTP, RTCP). Asterisk based PBX Solutions including PSTN integration ISDN (BRI,PRI) and analogue networks.
- System knowledge in IP Multimedia Subsystems (IMS) in accordance to 3GPP standards. Basic knowledge GSM/GPRS/UMTS. Participated on analysis, design and implementation of 3GPP SIP Call Session Control Functions (CSCF).
- Analysis, design and implementation of VoIP Applications based on WindowsCE / PDA (MDAIII and BenQ)
- Analysis, design and implementation of software on UNIX (Solaris, Linux) and Windows platforms
- Installation and configuration of Linux platforms

- Design and implementation of database applications (ORACLE, Polyhedra, TimeSten, PostgreSql) including schema architecture and complex SQL or PL-SQL queries, triggers and stored procedures
- Installation and configuration of local networks based on Linux server technology in mixed configuration with Windows XP clients (SAMBA interfacing) and Linux clients (NIS/NFS, LAN WAN interfacing).
- Analysis, design and implementation of web-based database client-server applications (Apache http server, CGI interface, JavaScript, HTML, ODBC, Oracle OCCI C++)
- Implementation in C, C++, Perl and Java
- Design and implementation of graphical user interfaces in Java with support of the Borland JBuilder

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## PROFESSIONAL EXPERIENCE / PROJECTS

### **HolCom Consulting, 01/2014 -**

IBM Germany - System test of an IBM carrier VoIP server designed for Deutsche Telekom. Design, documentation and implementation of automated regression tests to ensure SIP-protocol conformity. Functional tests of the implemented telephony features. Defect tracking with IBM Rational Clearquest. Design and Implementation of an XML-tool (Perl) to generate test data into a DB2. Setting up a framework to test the business statistic system of the VoIP server.

### **HolCom Consulting, 10/2011 – 12/2013**

Rohde & Schwarz - System integration test and bug fixing of Rohde&Schwarz M3TR and XK4100 radios into a VoIP System including Asterisk PBX'es. Development of test tools for an automatic regression test environment. Evaluation and bug fixing in C/C++ code. Test of the radios EUROCAE ED137 compatibility.

### **HolCom Consulting, 01/2011 - 07/2011**

Deutsche Telekom - Feasibility study regarding all IP connections (VoIP/DDI) for business customers of Deutsche Telekom AG. Concepts to manage ISDN channel capacities of the Terminal Adapters on a VoIP DDI connection according SipConnect1.1 / RFC6140. Concepts to migrate ISDN DDI connections to NGN-VoIP. Solutions to integrate Terminal equipment into the Remote Management System based on TR-069.

Monitoring standardization activities TR-069,RFC and SipConnect1.1.

Clarification of technical details with suppliers.

### **HolCom Consulting, 09/2009 - 12/2010**

Deutsche Telekom - Design and implementation of a WEB-based portal to monitor the Deutsche Telekom IVR portal. Integration of tools like Nagios and Cacti.

### **HolCom Consulting, 05/2009 - 06/2009**

IBM Germany - Configuration and activation of a VoIP PBX at IBM Network Development GmbH in Berlin, based on Asterisk PBX with open source WEB frontend „Gemeinschaft“ (Aooma). Integration of Linksys phones into the automatic provisioning system. Fixing bugs in the PHP software and implement extensions according to customer requirements.

### **HolCom Consulting, 06/2008 - 06/2009**

IBM Germany - System testing of the Nokia-Siemens NGN platform including VoIP Switch hiQ4200/8000 and management server hiQ4300, Acme-SBC and media gateways.

Manual and automatic tests using MQC Test Director and ClearQuest.

Test of all common PBX-features, error tracking and documentation.

Maintenance of the existing regression test system, creation of new test scripts and integration into the MQC.

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**HolCom Consulting, 08/2007 - 05/2008**

IBM – Germany - Integration and testing of a VoIP switch which is part of the ISP NGN VoIP platform of IBM Germany. Design and implementation of an automatic regression test environment based on Perl scripting. Creation of test specifications and test scripts. Installation, configuration and test of the basic telephony features (e.g. SimRing, parallel forking, call transfer, call forwarding, CLIP, CLIR). Checked the SIP protocol behaviour for RFC standard conformity. Analysis of defects also in the C++ source code. Documentation and tracking of defects using ClearQuest, and performing regression tests. Maintenance and extension of database tools for IBM DB2.

**HolCom Consulting, 11/2006 - 05/2008**

Arcor - Design and implementation of a Windows C++ based provisioning tool to create virtual private branch exchanges (VPBX) on a Nortel CS2000 carrier grade VoIP switch. Design of a Linux based solution including a WEB based user interface.

**HolCom Consulting, 07/2006 - 03/2007**

Arcor - Integration and test of a Nortel CS2000 switch into an existing carrier network. (Arcor in Eschborn, Germany). The job included specification and implementation of system tests, error tracing, especially in case of incompatibilities between switch and terminals. Management of the acceptance tests, writing a manual to be used in the NOC.

**HolCom Consulting, 2005 –**

Design and implementation of an Internet – telephony service for small business customers based on Asterisk open source PBX. The system operates on different Linux distributions (SuSE, Redhat, Debian). Interworking to the PSTN using Digium interface cards to analogue and ISDN (PRI/BRI) connections. Integration with different SIP Terminals and intelligent routing between network nodes using IAX2 (inter-Asterisk) protocol.

Design and implementation of the required Web-based billing system.

**HolCom Consulting, 2006**

Siemens – Benq - Design and Implementation of a video sharing application together with Saphir GmbH in Munich for the customer BenQ. The application based on Windows mobile on a BenQ P-50 PDA. The result has been presented successfully at the C-BIT fair in Hannover.

**HolCom Consulting, 2004 – 2005**

Siemens – Mobile - VoIP project for Siemens Mobile together with Saphir GmbH in Munich. Design and implementation of a UDP based VoIP routing module which performs a seamless routing of the RTP (voice) stream across different transmission medias e.g. WLAN and GPRS. Implementation in Visual C++ based on WindowsCE on a MD4III PDA. Part of the project was the design and implementation of a SIP proxy to adapt a EyepMedia soft-phone to the routing module.

**HolCom Consulting, 2003 – 2004**

Installation and Configuration of a small business network system for an animal clinic in the Niagara region. Evaluation installation and configuration of veterinary management systems like AviMark and AltaPoint.

Design and implementation of a larger B2B solution for a customer operating in the merchandising business.

The system included order management, inventory management, accounting and logistic support.

- Platform SUSE Linux 7.3, Apache Webserver, PostgreSQL Database
- CGI/DB interface in C++, development tools in Perl

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