



Colegio de San Juan de Letran
Dominican Avenue, Abucay, Bataan
Library and Media Services

RESEARCH GUIDE: SYSTEM INTEGRATION AND ARCHITECTURE

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RESEARCH GUIDES

SYSTEM INTEGRATION AND ARCHITECTURE

I. SCOPE NOTE

System integration (SI) is an IT or engineering process or phase concerned with joining different subsystems or components as one large system. It ensures that each integrated subsystem functions as required. [Techopedia](https://www.techopedia.com/definition/9614/system-integration-si).

<https://www.techopedia.com/definition/9614/system-integration-si>

Integration architecture is a software architecture that facilitates the integration of multiple IT components. This architecture changes with the advances in cross-platform utility and other development paradigms for new kinds of digital operations. [Techopedia](https://www.techopedia.com/definition/30625/integration-architecture).

<https://www.techopedia.com/definition/30625/integration-architecture>

II. SEARCH AIDS (BT: Broader Term, RT: Related Term, NT: Narrow Term)

BT:

- Information Technology
- Computer Science
- Systems Engineering

RT:

- Computer System
- Expert System
- Executive Support System
- Enterprise Resource Planning System
- Software Development Kit
- Access Modifiers
- Aspects Oriented Programming
- Software Development Process
- Internet Server
- Security Architecture

NT:

- Operating System Virtualization
- Design Pattern
- Enterprise Integration Application
- Enterprise Architecture
- Strategy Analysis
- Balanced Scorecard and Strategy Maps (BSSM)

III. INFORMATION RESOURCES

A. LIBRARY RESOURCES

Note: For the appropriate access credentials, please contact the Letran Bataan Library

➤ E-JOURNALS

- Information Technology and Management.
https://www.proquest.com/publication/publications_25825
- Computer Networks. https://www.proquest.com/publication/publications_47119
- International Journal of Computer Science Issues (IJCSI).
https://www.proquest.com/publication/publications_55228
- IEEE Systems Journal. https://www.proquest.com/publication/publications_85494
- Journal of Technology.
https://search.proquest.com/central/publication/publications_38628
- Journal of Information System Education.
https://search.proquest.com/central/publication/publications_25848
- IUP Journal of Computer Sciences.
https://search.proquest.com/central/publication/publications_2029993
- Journal Systems Integration.
https://search.proquest.com/central/publication/publications_2032453
- Computer Technology Journal.
https://search.proquest.com/publication/publications_38406

➤ E-THESES

- Liaghati, C. E. (2021). Development of an architecture framework for the inclusion of human factors in system design (Order No. 28413542). Available from ProQuest Central. (2513263616). Retrieved from <https://www.proquest.com/dissertations-theses/development-architecture-framework-inclusion/docview/2513263616/se-2?accountid=190548>
- Sukur, A. (2020). Enterprise architecture routinization and use of enterprise architecture standards to achieve information technology flexibility and enterprise agility (Order No. 27743474). Available from ProQuest Central. (2387266633). Retrieved from <https://www.proquest.com/dissertations-theses/enterprise-architecture-routinization-use/docview/2387266633/se-2?accountid=190548>
- Tucker, S. (2020). Computational trust within system architectures (Order No. 28542811). Available from ProQuest Central. (2553208371). Retrieved from <https://www.proquest.com/dissertations-theses/computational-trust-within-system-architectures/docview/2553208371/se-2?accountid=190548>
- Orellana, D. W. (2018). Extending systems architecting for human considerations through model-based systems engineering (Order No. 10749393). Available from ProQuest Central. (2037607657). Retrieved from <https://www.proquest.com/dissertations-theses/extending-systems-architecting-human/docview/2037607657/se-2?accountid=190548>
- Corbets, J. B. (2017). Evaluating system architecture quality and architecting team performance using information quality theory (Order No. 10252696). Available from ProQuest Central. (1860237528). Retrieved from

<https://www.proquest.com/dissertations-theses/evaluating-system-architecture-quality/docview/1860237528/se-2?accountid=190548>

- AboualizadehBehbahani, M. (2016). Proposing a new system architecture for next generation learning environments (Order No. 10151622). Available from ProQuest Central. (1835092962). Retrieved from <https://www.proquest.com/dissertations-theses/proposing-new-system-architecture-next-generation/docview/1835092962/se-2?accountid=190548>
- El-Bathy, N. (2010). Intelligent information retrieval and web mining architecture using SOA (Order No. 3398396). Available from ProQuest Central. (231330399). Retrieved from <https://search.proquest.com/docview/231330399?accountid=190548>
- Kopaliani, D. N. (2008). Architecture of digital asset systems for libraries (Order No. 3354929). Available from ProQuest Central. (304408836). Retrieved from <https://search.proquest.com/docview/304408836?accountid=190548>
- Helton, D. A. (2000). An architecture for interfacing coarse-grained components in software applications (Order No. 9963509). Available from ProQuest Central. (304626743). Retrieved from <https://search.proquest.com/docview/304626743?accountid=190548>
- Tang, L. (2011). Modeling and analyzing service-oriented enterprise architectural styles (Order No. 3494567). Available from ProQuest Central. (921613581). Retrieved from <https://search.proquest.com/docview/921613581?accountid=190548>

B. OPEN ACCESS

➤ FREE E-BOOKS

- Hennessy, John L., Patterson, David A. (2019). Computer Architecture: Quantitative Approach (6th ed.). Cambridge, MA: Elsevier. <https://www.pdfdrive.com/computer-architecture-sixth-edition-a-quantitative-approach-d184752345.html>
- Borzemski, Leszek, Świątek, Jerzy, Wilimowska, Zofia (Eds.) (2019). Information Systems Architecture and Technology: Proceedings of 39th International Conference on Information Systems Architecture and Technology – ISAT 2018 Part 1. Switzerland: Springer Nature. <https://www.pdfdrive.com/information-systems-architecture-and-technology-proceedings-of-39th-international-conference-on-information-systems-architecture-and-technology-isat-2018-part-i-d187127109.html>
- Elahi, Ata (2018). Computer Systems: Digital Design Fundamentals of Computer Architecture and Assembly Language. Switzerland: Springer International Publishing. <https://www.pdfdrive.com/computer-systems-digital-design-fundamentals-of-computer-architecture-and-assembly-language-e182273799.html>
- Yadin, Aharon (2016). Computer Systems Architecture. Boca Raton, FL: CRC Press. <https://www.pdfdrive.com/computer-systems-architecture-e188657582.html>
- Bass, Len. (2012). Software Architecture in Practice, 3rd edition. New Jersey: Addison-Wesley. <https://www.pdfdrive.com/software-architecture-in-practice-d55349336.html>
- Lethbridge, Timothy C. and Laganière, Robert. (2005). Object-Oriented Software Engineering Practical Software Development using UML and Java, 2nd edition. London: McGraw Hill. <https://www.pdfdrive.com/object-oriented-software-engineering-practical-software-d12882300.html>
- Engalnder, Irv. (2009). The Architecture Of Computer Hardware, System Software, And

Networking An Information Technology Approach. New Jersey: John Wiley & Sons.
<https://www.pdfdrive.com/the-architecture-of-computer-hardware-and-system-software-d20630163.html>

- Britton, Chris and Bye, Peter. (2004). IT Architectures and Middleware: Strategies for Building Large, Integrated Systems, 2nd edition. London: Addison-Wesley.
<https://www.pdfdrive.com/it-architectures-and-middleware-strategies-for-building-large-integrated-systems-d187990755.html>

➤ FREE E-JOURNALS

- Journal of Analytical Science and Technology. <https://jast-journal.springeropen.com/>
- International Journal of Enterprise System Integration and Interoperability.
<https://www.inderscience.com/jhome.php?jcode=ijesii>

➤ FREE E-THESES

- Popalyar, A. N. (. (2019). Critical success factors for a TMS integration to an ERP system. (Masters Thesis). Open Universiteit Nederland. Retrieved from <http://hdl.handle.net/1820/5e4c626f-addc-4cff-8264-17c31b7afa2c>
- Laufenberg, D. (2019). An architecture for blockchain-based collaborative signature-based intrusion detection system. (Thesis). Kennesaw State University. Retrieved from https://digitalcommons.kennesaw.edu/msit_etd/5
- Söder, M. (2017). Cloud based system integration: System integration between Salesforce.com and Web-based ERP system using Apache Camel. (Thesis). Karlstad University. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:kau:diva-54987>
- Standar, M. (2017). Continuous architecture in a large distributed agile organization: A case study at Ericsson. (Thesis). Linnaeus University. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:lnu:diva-65014>
- Brostedt, N. (2017). Heterogeneous data in information system integration: A Case study designing and implementing an integration mechanism. (Thesis). Uppsala University. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-325961>
- Akeel, F. Y. (2017). Secure data integration systems. (Doctoral Dissertation). University of Southampton. Retrieved from <https://eprints.soton.ac.uk/415716/>;
<https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.729672>
- Selvaraj, S. (2012). Order Processing for SME's using Enterprise Application Integration. (Thesis). Jönköping University. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:hj:diva-19721>
- Hafsteinsdóttir, T. (2017). Continuous Integration in Component-Based Embedded Software Development: Problems and Causes. (Thesis). Chalmers University of Technology. Retrieved from <http://hdl.handle.net/20.500.12380/250024>
- Liu, B. (2011). Integration of physical and virtual prototyping. (Doctoral Dissertation). Loughborough University. Retrieved from <http://hdl.handle.net/2134/9080>
- Qadeer, S. (2011). Integration of Recommendation and Partial Reference Alignment Algorithms in a Session based Ontology Alignment System. (Thesis). Linköping University Linköping University. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:liu:diva-73135>

- Nilsson, S. (2016). Implementation of a Continuous Integration and Continuous Delivery System for Cross-Platform Mobile Application Development. (Thesis). Linköping University. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:liu:diva-129922>

C. PROFESSIONAL ORGANIZATIONS

- Philippine Computer Society. <https://www.philippinecomputersociety.org/>
- PSITE – NCR (Philippine Society of Information Technology Educators Foundation, Inc. <https://psite-ncr.org/>
- National ICT Confederation of the Philippines. <https://psite-ncr.org/>
- InfoComm Technology Association of the Philippines. <http://www.itaphil.com/index.html#/>
- Computer Professional for Social Responsibility. <http://cpsr.org/>
- Association of Software Professionals. <https://asp-software.org/www/>
- Association for Computing Machinery. <https://www.acm.org/>
- Association for Information Technology Professionals. <https://www.baylor.edu/business/mis/index.php?id=92998>
- Association of Independent Information Professionals (AIIP). <https://www.aiip.org/>
- IEEE Computer Society. <https://www.computer.org/membership>

D. OTHER RELATED WEB PORTALS

- InformationWeek News Connects The Business Technology Community. <https://www.informationweek.com/>
- Info World. <https://www.infoworld.com/>
- Computer Weekly. <https://www.computerweekly.com/news>
- Fingent. <https://www.fingent.com/blog/>
- Tech Republic. <https://www.techrepublic.com/>
- Reddit. <https://www.reddit.com/r/InformationTechnology/>
- Elligense. <https://medium.com/elligense-team>
- Tech Community. <https://techcommunity.microsoft.com/t5/itops-talk/ct-p/ITOpsTalk>

E. RELATED RESEARCH GUIDES

- University of Michigan Library Research Guide. <https://guides.lib.umich.edu/?b=s>
- Boston College Libraries Research Guide. https://libguides.bc.edu/research_guides
- De Paul University Library Research Guide. <https://libguides.depaul.edu/hci>
- University of Washington Research Guide. <https://guides.lib.uw.edu/research/hcid>
- Syracuse University Libraries Research Guide. <https://researchguides.library.syr.edu/HCI>
- IOWA State University Library Research Guide. <https://instr.iastate.libguides.com/c.php?g=486449&p=3327134>
- Drexel University Libraries Library Research Guide. <https://libguides.library.drexel.edu/hci/special>

IV. TUTORIALS

- System Integration and Architecture 1. <https://www.youtube.com/watch?v=qs4Z3PayuVQ>
- Systems Integration. <https://www.youtube.com/watch?v=JZ9J2hbkum0>

- Integrated Systems. https://www.youtube.com/watch?v=dD_D2X5ljgQ
- Systems Integration Concepts. <https://www.youtube.com/watch?v=GLt6RNIjfdE>
- The System Integration Project. https://www.youtube.com/watch?v=iTLJPFjpO_M
- The Balanced Scorecard. https://www.youtube.com/watch?v=O71dals6x_M
- What are Enterprise Integration Patterns? <https://www.youtube.com/watch?v=WNm3QmJadNs>
- Virtualization Explained. <https://www.youtube.com/watch?v=FZR0rG3HKIk>
- Intellipaat. <https://intellipaat.com/blog/>
- Galido Networks. <https://galido.net/blog/best-freelancing-websites-to-get-remote-work-in-2020/>
- ZD Net. <https://www.zdnet.com/>
- Paessler. <https://blog.paessler.com/>
- Value Coders. <https://www.valuecoders.com/blog/>

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