

Lomikel - Graph on the Sky

Monday, May 6, 2024 11:20 AM (25 minutes)

This presentation introduces an innovative approach for the storage, organization, access, analysis, and visualization of Fink data. Rather than treating Fink data as isolated entities, we propose representing it as a graph of interconnected objects, comprising sources and alerts. This novel organization enables the capture of important collective features, providing a simple and intuitive framework for classification and analysis of otherwise concealed relationships. Graphs serve as a powerful tool for implementing sophisticated algorithms and facilitating the identification of clustered or isolated (unique) alert sources. Moreover, interconnected alerts create a natural environment for the application of machine learning algorithms. Concrete, reusable examples will be demonstrated to show the practical application of these possibilities. The presentation will also highlight the seamless integration of Lomikel within the Fink ecosystem, showing its functionality both through the command-line interface and standard web services. Additionally, insights into the relationship between integrated data storage, utilizing graph databases alongside traditional technologies, and common graph analysis frameworks will be discussed. The presentation will conclude by exploring possibilities for extending this integration to other potentially useful tools, providing a comprehensive overview of the Lomikel framework's capabilities within the Fink data ecosystem.

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Session Classification: Contributed