Member Benefits and Getting Involved

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Busting Some Standardization Myths

- "Standards are slow to develop"
  - Effective cooperation to accelerate time to productive ecosystems is the key ...
  - ... rather than minimizing time to a proprietary specification
  - OpenCL 1.0 took just 6 months – intensive cooperation

- "Its hard to differentiate if we use Standards"
  - Well-designed API standards enable and encourage implementation diversity ...
  - ... compete on implementation cost/power/perf – don’t fragment functionality

- "If I participate in standards I ‘lose’ my IP"
  - Khronos IP Framework fully protects Members IP and the specification
  - Members agree not to assert IP claims against other Members or Adopters
  - License grant is VERY narrow
    - Only for CONFORMANT IMPLEMENTATIONS
    - No implementing technology, just what is in the specification itself
Standards in the Real World

• Should REFINE by committee – not DESIGN by committee
  - Only standardize once potential industry solutions are well understood

• A well designed standard must enable implementation differentiation
  - No OS or silicon vendor wants to be commoditized – innovation is key

• Every successful open standard has a de facto proprietary competitor
  - Ecosystems seem to work best when both are healthy and evolving
Khronos Cooperative Model

Khronos standards have significant value - 100s of man years invested by industry leading experts

• How does Khronos make money?
• It doesn't!
• Khronos fees cover costs of creating, deploying and promoting specs and tests

Khronos Specifications
Conformance Tests

Khronos creates open, royalty-free API standards

• Solid legal framework for industry cooperation
• ‘By the industry for the industry’
• Open to any company to join

Khronos Members agree not to assert IP claims against other Members or Adopters for CONFORMANT IMPLEMENTATIONS
## Khronos – Balanced IP Protection

<table>
<thead>
<tr>
<th>Protection for Implementers</th>
<th>Protection for Members IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khronos Members agree not to assert IP claims against other Members or Adopters for CONFORMANT IMPLEMENTATIONS OF RATIFIED Specifications</td>
<td>NO IP licensed for partial or non-conformant implementations</td>
</tr>
<tr>
<td>Companies must be MEMBERS or ADOPTERS for a reciprocal license to be granted</td>
<td>NO Implementation IP licensed JUST IP specifically enumerated in the Specification</td>
</tr>
<tr>
<td>NO DISCLOSURE OF IP NECESSARY</td>
<td>Just ESSENTIAL IP Licensed – not any IP with commercially plausible alternatives</td>
</tr>
<tr>
<td></td>
<td>Members can exclude themselves from specific working groups licenses</td>
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<tr>
<td></td>
<td>Member ALWAYS have the right to disclose and exclude specific licenses with a precise IP DISCLOSURE CERTIFICATE</td>
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Very Narrow License Grant

- Excluded Working Groups
- No License for non-conformant implementations
- No Implementation IP
- Disclosed IP
- Only ESSENTIAL IP

IP typically licensed is extremely narrow
Membership and IP Licensing Timeline

- **Previous Spec Version Ratified**
  - Point of Grant of Reciprocal License
  - All existing and joining members commit to grant reciprocal license at next ratification UNLESS excluded from working group. Exclusion is voided if member attends meeting

- **Specification Drafting**
  - Members may exclude IP at any time between Ratifications. IP Disclosure must include "reasonable identification of the specific parts of Draft Specifications"

- **Ratification Review Period Starts**
  - Min 45 days
  - IF Member leaves Khronos – obligations to license IP remain up to the next Ratification

- **New Spec Version Ratified**
  - Point of Grant of Reciprocal License
Khronos Conformance Process

- Implementers of Khronos specifications are not covered under the Khronos IP framework unless their products are submitted and pass conformance!
- Khronos administers an Adopters Program for each API
  - Adopters program provides full test access and trademark license for small fee

Diagram:
- Company implementing Khronos spec wishes to use the trademark
  Example: “We implemented OpenGL ES”
- Company executes Adopters Agreement and pays fee (usually US$10K for unlimited products)
- Port and execute tests on products to generate test results
- Upload test results to Khronos private web-site. Peer Review by members/Adopters
- Successful Review of results enables products to use Khronos trademarks and to be listed on Khronos website

Adopter Benefit:
- Restricted use trademark (not logo) with disclaimer language
- Full use of logo and trademark with small disclaimer
- Full use of logo and trademark

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The Value of Khronos Participation

See an early window into the future of the industry technology roadmap before products are developed.

Gather Industry Requirements for future silicon acceleration

Have a voice in how key standards evolve to suit your business needs.

Draft Specifications Confidential to Khronos members

Develop products in parallel with spec drafting for faster time to market.

Publicly Release Specifications and Conformance Tests

Members can ship products faster than non-members.

Companies Release Products

Products are aligned with global market needs and trends.

The Khronos standardization process is proven to RAPIDLY generate industry consensus on future hardware acceleration functionality to EFFICIENTLY create new market opportunities.
Khronos Group Benefits

Along with your Khronos membership, you get:

• **Workgroup participation**
  - Join the weekly teleconferences
  - Contribute to specifications
  - Help develop conformance tests

• **Traditional Corporate Marketing**
  - Is not what Khronos does

• **Personal & Technology Marketing**
  - Networking
  - Exposure
  - Boost your career
Face2Face meetings

• Discuss technology
  - On a whole different level
  - Exchange ideas

• Meet other representatives socially
  - From other companies
  - Including industry Gurus!

• Incredible networking opportunities
  - Make connections around the world
DevUs, BoFs and Pavilions

- **DevUs & BoFs**
  - Present interesting techniques for solving problems
  - Present new technologies

- **Pavilions**
  - Answer developer questions
  - Great networking

- **Excellent opportunity to meet industry experts**
  - And get exposure for yourself & your company
Contribute to Developer Community

- Publish on Khronos web page
  - Articles
  - White papers
  - Example code

- Assist other developers
  - Answer questions on forums
  - Contribute to Open Source projects

- Khronos can get you and your company noticed!
Industry Gurus & Visionaries

You may not realize that at Khronos, you rub shoulders with:

**Neil Trevett**
President of Khronos  
Vice President Mobile Content at NVIDIA  
Over 20 years in the 3D graphics industry

**Tom Olson**
OpenGL ES Guru  
Director, Graphics Research at ARM  
Chair of OpenGL ES working group since 2006

**Dave Shreiner**
OpenGL Guru & Author  
Director, Graphics and GPU Computing at ARM  
Author of several OpenGL books

**Ed Plowman**
Khronos Treasurer & OpenGL Evangelist  
Technical marketing manager ARM  
Instrumental in ARM joining OpenGL ES effort

**Kari Pulli**
Imaging Expert  
Senior Director of Research at NVIDIA  
Former fellow at Nokia

**Erik Noreke**
Chair OpenSL ES and OpenMAX AL  
Frequent Khronos presenter  
Builds a mean V8!

These are the just some of the visionaries and leaders who were instrumental in creating Khronos APIs  
and you are sitting in the room with a number of them right now!
On the Road with the Khronos Group

- Visit exciting places
  - All over the globe

- Eat exotic foods and drinks
  - And enjoy the company of your fellow Khronos presenters

- Industry recognition
  - Build recognition for yourself and your company in the technology world

- And as to getting much sleep...
  - That’s what the flight home is for
Resources within Khronos Group

- **Khronos Group has their own marketing team!**
  - Use them to get involved

- **Templates for your sessions and talks**
  - flyers and handouts
  - Presentations

- **Speaker web pages**
  - Promote yourself and your talents

- **Great people who have been there before**
  - Support to get you going
Get Involved!

• Take a look at the list of Khronos Work Group Chairs and other visionaries
  - See the kind of people that you are able to work with when you do more than just dial in on the teleconferences

• When you attend these pavilions or DevUs you are doing much more than just having a presence at a trade show
  - You are building your career

• Khronos Group has strong relationships with the press
  - We bring a video crew to almost all of our events
    - Your lecture to a room of 50 or 100 key developers lives on in the future on our website